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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Some Observations on the Fevers prevalent on the West Coast of Africa, made at Gaboon, Latitude* 0° 30′ *N., Longitude* 9° 17′ *East from Greenwich; during a residence of four years, from* 1851 *to* 1855. BY HENRY A. FORD, M.D.

THESE fevers, generally known as "African Fever," "Guinea Fever," "Bulam Fever," or "Coast Fever," so much feared by Europeans, and so often proving fatal to foreigners, are doubtless malarious in their origin, and, in general features, are similar to those produced by marsh miasmata in other countries and climates.

The face of the country, in this region, is of a nature usually found to be productive of malarious disease, and as a minute description of the topography of the country would lead me too far from my present design, I can only remark, that, like a large proportion of this entire coast, the land is generally low, often intersected by rivers and creeks, and covered by mangroves, bamboos, and other water-loving trees, and often overflowed by tides and freshets. This portion of the land seems to give character to the climate of the whole country, since although there is much dry land, and this is often elevated, yet it is so surrounded by swamps, that the atmosphere is uniform throughout the entire region.

These remarks refer entirely to the coast. Interior, the face of the country is different, and, unless the dense forests generate disease (or rather the cause of disease), the climate may be healthy. These regions, however, have never yet been tried on any extended scale, all settlements having hitherto being made on the coast, or upon the rivers that are on a level with the sea.

Before entering upon the description of these fevers I will premise that, from the most careful observations I have been able to make, I am led to believe that too much distinction has been made between the different forms of malarious fever. In these localities, at least the intermittent in its various types, the remittent or "bilious," and the continued forms (which last occasionally occurs in persons of a peculiar temperament) are essentially one disease. The great division of diseases, and consequent multiplication of names, is not a matter of so great consequence as the diversity of treatment instituted by many practitioners, founded on a supposed difference in the pathology of these several forms of fever. To this I object, and, for this reason among others, I have treated of them as one disease. The relationship of these forms of fever is proved by the identity of locality. They all occur in the same localities, among residents as well as among transient persons. Again, they attack different persons at the same time and under similar circumstances, and the same persons at different times. All forms follow the same law of return. That is, all (indiscriminately) are likely to recur at hebdomadal or lunar periods. I have observed no difference, in this respect, between the various forms.

Again, on the recurrence of fever, at these periods, one form often succeeds another. Again, it often happens that an intermittent becomes a remittent or continued fever—and again, the last become intermittent. The last change happens in cases of gradual convalescence—the first in the increase of disease often arising from some organic cause. Lastly, the same general course of treatment is adopted in

each form of fever. Though, in the opinion of many, the last proof may itself need to be substantiated, I can only say, I verified the propriety of the treatment in a large number of cases.

In view of these facts, I shall, in my "observations," first point out the appearances common in our cases of *fever*, afterwards (for the sake of greater clearness) note those symptoms that are peculiar to the different forms or phases that *fever* assumes.

To a person accustomed to observe his own sensations, there is generally a preparatory stage of fever, anterior to the (so called) stage of "invasion," which, though often overlooked or forgotten by the patient, is a part of the disease. This stage is of great moment, as it regards treatment; since in many cases, perhaps uniformly, the disease may be stopped here—the subsequent stages entirely prevented. It appears to be (or serves as) a warning given by Nature of approaching disease.

I believe that it is not peculiar to miasmatic fevers, perhaps not to fevers. The same symptoms are noticeable in the commencement of inflammatory diseases.

The variations from a healthy standard, in the sensations, as well as in the functions of various organs, are numerous. For a length of time (perhaps days) before the access of fever, the patient notices a loss of appetite, restlessness or sleeplessness, an unpleasant taste in the mouth, particularly on rising. These may be attended by constipations, and subsequently by uneasiness and restlessness or weariness. The most intense weariness I ever experienced has come on *spontaneously* in this stage of fever. There is a susceptibility to cold, and dryness and harshness of skin is present. The urine is copious and pale, which are often the first symptoms noticed by the patient. The pulse is usually unaltered, though sometimes frequent and small. There may be slight headache and irritability of stomach, though these are usually developed later in the disease.

The mental faculties are usually slightly disturbed. There

is an incapacity for close thought, and the patient is soon wearied by study. The imagination, however, is occasionally active, and the patient shows a restless desire to be engaged, without the ability to confine himself to any particular engagement. There is occasional moroseness and feverishness, or perhaps timidity and an indefinable apprehension of coming danger. These symptoms appear separately, or are variously combined in greater or less intensity in different individuals, and at different attacks.

There are, however, many cases in which this formative stage does not occur, but that of invasion makes a sudden irruption. Some exciting cause comes in, giving rise to the fully developed attack at once.

In susceptible persons, this happens after exposure to the direct rays of the sun; severe and long continued exertion; sitting in wet clothes after a rain, the wetting not proving as injurious, if the person is able to obtain shelter and dry clothing. Great mental excitement produces a chill, as joy, sorrow, or fear. In these cases the attack is prompt and powerful, but not usually serious in its results.

After an indefinite period, varying from twelve hours to two days, another series of symptoms set in. These, though equally varied, are more apparent. This, usually called the "attack," is in part the second stage, or that of "invasion." It begins with a disposition to yawn and stretch, succeeded by cold. The patient wishes to shield himself from the wind, or put on additional clothing, or lying down covers himself with blankets; feeling the cold, however, in his feet and hands first, from thence it passes to the spine, and creeps over the whole body, always, however, producing the impression that the seat of the disease is in the extremities of the spine, to which the patient begs to have the heat and stimulants applied. If cold is not speedily relieved, the chill becomes a rigor, although I have not often known an uninterrupted chill prove as severe as in the common intermittents of the United States.

In some cases the chill is light, but it is attended by nerv-

ous symptoms of a most distressing kind. The patient seems paralyzed, dizziness comes on, he seems unable to stand or walk. Either from an exclusive attention to his own feelings, or real mental aberration, he is unconscious of objects and scenes about him, and only complains of prostration and want of breath. Occasionally the chill is attended with pain in the back and limbs, extending even to the feet, with headache. Some patients uniformly feel deeply-seated pain in the epigastrium, which produces faintings and intense prostration. Others complain of a belt of pain around the body on a level with the umbilicus, or higher up through the inferior parts of the chest; others feel pain simulating pleurisy, pervading the chest and impeding its movements. In case of chronic uterine disease there is often intense pain in that "organ" and the surrounding parts, extending to the hypogastrium and the iliac regions, as well as to the sacrum, simulating the true acute hysteritis, which, however, need not be feared, as the pain subsides before the close of the succeeding stage.

The general appearance of the patient is characteristic of the stage of the disease. The face is pale, the skin shriveled, the nose contracted, or apparently more pointed than natural, the lips blue or purple, eyes dull and heavy. The pulse is unusually slow and feeble. This chill usually yields, under the application of heat and stimulants, after a short time. In many cases, however, even these applications are unnecessary, as the chill subsides spontaneously, but occasionally it returns on the accession of the third stage, making the patient exceedingly uneasy by distressing alternations of heat and cold, flashes of heat and chills succeeding each other.

In a large number of cases, however, there is no chill at the "invasion," but headache, nausea, pains in the back and limbs, and various sensations such as are described as attendant upon ague. These take its place, for a time, and eventually pass into the third stage—the stage of invasion. I have noticed this mode of attack, in cases of new residents,

in first fevers, such persons usually supposing that they have "a cold," or are weary, and do not admit that they are sick, until the fully developed hot stage forces them to apply for aid, though cases often happen in which they delay until the use of remedies becomes vain, and death follows as the penalty.

In regard to the time of the accession of the second stage, I have observed, in this climate, a marked variation from the hours at which it is represented by most authors to make its appearance here. Though a large number of persons have been attacked during the day, usually in the forenoon, yet many are attacked at *night;* some on retiring to rest, some uniformly at or about midnight, and others some hours before day.

After an indefinite period, varying from one to six hours, the chill gradually subsides, the body becomes warm, and the extremities soon return to their natural temperature. The reaction, however, does not stop here; the patient, from feeling a pleasant glow which is often very grateful after the rigors just passed, begins to complain of heat. He throws off the bedclothes and asks for air; the skin becomes red and hot; face loses its shrunken appearance, becoming turgid; the eyes appear bright and watery; the pain in the head, if it previously existed, increasing; thirst usually becoming urgent; nausea coming on, with pain in the back and limbs, as in the previous stage. The nausea is often a most distressing symptom, not only harassing the patient by vomiting, but producing intense thirst, and forbidding the use of remedies by the mouth. In many persons it is a constant attendant on fever, from first to last, and becomes the most serious complication in the course of this disease. This occurs in cases not otherwise serious and entirely uncomplicated with organic disease.

The pulse always in the beginning increases in frequency and force—those cases not excepted in which the pulse subsequently falls, which are hereafter to be described. The range, however, is very great, being from 80 to 130 beats in a minute, even in mild, uncomplicated fever.

The urine is always changed. It becomes scanty in most cases. The color in ordinary mild cases is brown, in malignant cases, *red* or *black*. There are no more constant symptoms of violent disease than these changes in the urine. No patient can be considered out of danger, while the urine remains red or black. Inspection of this secretion should never be neglected by the attending physician.

When the fever is fully developed, in addition to the headache, a variety of strange sounds are occasionally heard, as whistling, murmuring, and crackling noises; at other times there is deafness. These all simulate the effects of quinine, and are sometimes mistaken for them, which is the more unfortunate, as they indicate grave disease. The diagnosis, however, is not difficult, if the attendant physician have a clear idea of the sensations caused by quinine. It seems to the patient as if the ears were stuffed with cotton, or some other soft substance. The deafness is not a simple abolition of hearing. The patient is inclined to pick his ears, as if some foreign substance were in them. Quinine is, furthermore, attended by perspiration in most cases.

The tongue, in the commencement of fever, is usually clean or covered only with a slight, white fur. If, however, the disease remain unchecked two or three days, the fur becomes thick and brown, or yellow. When the paroxysm remits, the tongue soon begins to throw off its load, commencing at the edges and tip. The appearance of the tongue in this, as in other fevers, is diagnostic of the stage of the disease. If it clears gradually from the borders, the central fur becoming rugged and broken, the disease may be considered as yielding. If, however, the fur flakes off in the center of the tongue, leaving a red surface, some gastric or other disease of the alimentary canal may be suspected. In favorable cases, the tongue often loses its entire coating in a few hours. If the tongue remain loaded and become dark-colored, with sordes on the teeth, the patient is becoming prostrate and demands active stimulants.

This stage of fever is variable in its length. In most cases

there is an intermission, or remission, within twelve hours, although the paroxysm may continue, under some circumstances, eighteen or twenty hours, still retaining the character of a true intermittent. Remittents are occasionally still more tedious. These remarks refer only to the first paroxysms. If cases are properly treated, the future paroxysms will not be protracted beyond twelve hours in simple fever.

The fourth stage, that of "resolution," is ushered in by perspiration, which first appears on the forehead, neck, and arms, and is gradually diffused over the whole body. Occasionally, this is sudden and profuse, but often slight and evanescent—a simple moisture. The pains in back and limbs abate, the headache subsides with the nausea, the urine becomes more copious and of lighter color, the pulse lessens in frequency—often very decidedly—occasionally falling to its natural standard.

This is the end of the fever, so far as it can be said to end spontaneously. It is the signal for action on the part of the physician. If the opportunity is improved, succeeding paroxysms will be ameliorated—often they can be prevented.

The period of convalescence depends upon the severity of the attack. If the fever is checked after the first or second paroxysm, the confinement will be but short, and, after a day or two, the patient resumes his employments. If the case is complicated with visceral disease, it becomes tedious and dangerous according to the severity and obstinacy of the organic affection, and the stage at which it is noticed and treated. Affections of various organs, most frequently of the liver and spleen, may escape notice for a long time, becoming obstinate in proportion to their continuance.

Having given a general description of fever, as it occurs in these localities, I shall proceed to point out its various forms as they have fallen under my notice, and its complications as far as I have been able to detect them.

These forms differ in respect to the duration of the paroxysms, and the nature of the interval between them, and are named, accordingly, intermittent, remittent, and, in case

of the absence of any appreciable remission, continued. They may also be classed with reference to their organic affections, with which fever is connected, as complicated and simple, and, with reference to certain dangerous symptoms or peculiarities (independent of organic disease) malignant and benign.

These classifications appear to me to embrace the most important peculiarities of fever. Of course these specifications will not be understood to refer to as many different forms of fever, but, as the several classifications are based on different series of symptoms, one attack may be classed under three different heads at the same time.

The intermittent is the most common and usually the mildest form of fever. In many cases the first stage is slight and rarely noticed by the patient, though this is by no means a universal rule. The chill or the nervous symptoms that substitute it are strongly developed, and, in cases of malignity, the shock to the system is very great, as will be described under the head of "malignant fever." The chill in intermittent cases continues longer than in other forms, and does not seem to bear any relation to the force of the subsequent fever. This stage does not often continue more than two hours, often it is less than one hour, although, in some severe cases, there is a mixture of chill and fever (heat), continuing several hours, as before mentioned.

The termination of the chill and access of the hot stage is as described in the foregoing general remarks. Ordinarily the fever is high, the pulse is strong, full, and frequent, usually exceeding one hundred beats in a minute. The headache is often violent, nausea and thirst urgent, pain in back and limbs continuing from the cold stage, subsiding, however, before this stage is at an end. The length of this stage is usually short, not generally exceeding six hours, often less, although cases occur of much greater length. In uncomplicated fever this is rare.

As the fourth or sweating state approaches, all the violent symptoms subside, with a full flow of perspiration, and after

a few hours, especially after sleep, the patient feels restored. In many cases, however, the intermission is imperfect, resembling a remission, but, under treatment adapted to the prevention of the succeeding paroxysm, the patient soon entirely recovers.

This description may be the entire history of the disease. Under treatment this is often the case, but rarely without. The intermission, of which the sweating stage is the commencement, is ordinarily of short duration. The same series of chill, fever, and sweating is repeated, at the end of twenty-four or forty-eight hours from the beginning of the first paroxysm. Without the interference of the physician, however, there is danger of an arrest of the changes that complete the circle, and, in malignant or complicated cases, it often happens that there is no second period of resolution, but the hot stage continues for an indefinite time, or perhaps to a fatal termination.

Occasionally, during the second paroxysm, if no *efficient treatment has been instituted during the first intermission*, the ordinary interval is very imperfect, and the third and fourth chills return within a short time, making, as I have seen, three paroxysms in twenty-four hours. Such prove obstinate and often become continued. These cases have, as far as I have observed, followed *first* paroxysms of *simple, light* fever, in no way differing from those previously experienced by the same patients, which were uniformly stopped on the first day.

There is another noticeable variation of type, which in my experience has been obstinate in its course, and one case resisted treatment until the fourteenth day, that is, until the seventh paroxysm. It was a *double tertian* in which the second paroxysm began twelve hours after the first, and the interval between the second and third thirty-six hours, that is, the first coming on at sunset, the second follows at the succeeding sunrise, while the third attacks at sunset of the following day. The only cases of the kind that I have noticed have followed remitting fever at the end of a week, observing the hebdomadal period.

The remittent form of fever commences with a longer and more sensibly developed formative stage. The patient frequently complains of poor appetite, restlessness, giddiness, disinclination to labor with body or mind, with other manifestations of disordered vital actions, as described in the preceding general remarks. In those persons who recognize these appearances and use the appropriate remedies, the threatened attack is often prevented, but in the natural course of the disease the second stage follows the first after a short interval. The chill is often undeveloped, and a slight sense of cold, with distress in head, back, limbs, with nausea, takes its place. These soon pass into the hot stage. As the second stage is not so definitely marked as the ordinary intermittents (this is not uniformly the case), so we do not find the change to the third stage as prompt and definite. The pulse gradually rises in force and frequency, the heat of body increases, and headache and nausea become urgent; the furred tongue and highly colored urine follow. This stage usually continues longer in these than in the preceding form, subsiding, or rather abating within twenty-four hours (often eighteen hours) from the commencement of the chill.

At this stage of the disease, there is often much time lost in waiting for a perfect intermission, or in attempting to procure it by various means, other than those designed to prevent another exacerbation. The remission, as the name implies, is often marked by only a slight decline of pulse and an amelioration of the distress and heat of fever. There is often but little perspiration and an unimportant change in the color of urine.

At or before the hour of "invasion" of the previous day, this remission, with a slight chill (perhaps without), passes into a hot stage, which in turn remits as before. If left without treatment, however, it encroaches on the succeeding remission, and again the paroxysm anticipates its time at the next exacerbation. This can be prevented only by vigorous treatment during the first and second remissions.

Though in ordinary cases the arterial excitement does not rise as high as in the early paroxyms of intermittents, and for this reason are not looked upon by many as very formidable, yet careful observation will show, that, in an uninterrupted remittent of four or five days' standing, the pulse becomes very frequent, and skin hot and dry, and cerebral pain very distressing. Under these circumstances, the fever becomes continued, or the patient suddenly dies from the violence of the disease, without apparent visceral complications or even the malignant symptoms (that often prove fatal) hereafter to be described.

Remittents follow upon neglected intermittents, or those that have become complicated with organic disease. During the second and third paroxysms, these difficulties very frequently arise, and greatly aggravate the fever.

The continued form of fever has been rare within the range of my observation, except as the termination of the other forms; but I have met with a *few well marked cases.* The first stage is similar to that of the intermittent form, the premonitions evident, the chill slight, sometimes entirely wanting. The period of excitement continues an indefinite period without appreciable remission. It has not occurred to me to meet with any cases of more than five days' duration. At this time, the fever has begun to subside, without a marked crisis. The hot stage has been similar to that of the remittent. There has, however, always been in my cases a remarkable irritability of stomach, in some cases simulating gastritis; but these difficulties have yielded with the fever. I have seen but one fatal case. In this, the patient died on the fifth day, from the violence of the disease, without apparent organic lesion of importance. In this case, there was no treatment instituted until near death. This peculiar form seems, in some cases, to depend upon excitability of constitution. Persons susceptible to the common climatorial influences, suffering often from the debilitating influences of the climate, and great nervous irritability, seem to suffer in this way,

though generally this fever is not more violent than other forms.

I have already spoken of some complications to which fever is liable, which greatly aggravate it, always protracting it, and, if undetected, often rendering it fatal. I have given these cases a separate place and consideration, not because they belong to a distinct form of fever, being embraced in the foregoing divisions, but that they may be the more noticed, as I am satisfied that there has been much suffering and loss of life dependent upon organic disease, which from its insidious nature has not been suspected.

These complications are inflammatory and congestive. The most frequent are affections of liver and spleen, more rarely of the stomach and bowels. In whites, the lungs are very rarely affected. The brain is often the root of congestion and inflammation, although I do not consider these difficult of detection. Congestion and sub-acute inflammation of the liver are often undetected by pressure; the patient feels no pain, but it may easily be known by the dullness on percussion. There is often no tenderness in the part; either because there is no soreness connected with the disease, or because the tender part is out of reach of pressure. Percussion not only detects dullness, but often sensibility. The same remarks may be made in regard to the spleen, which is even more frequently subject to *chronic* enlargement, and is constantly liable under these circumstances to excite fever. No person is perfectly safe, with these enlargements, on this coast.

In cases of fever, in which the excitement returns after the second intermission (or remission), the appropriate treatment having been instituted, I consider there is reason for suspecting organic disease. It may be simple congestion, or, more probably, inflammation. In case of chronic enlargements of spleen or liver, any exciting cause of fever —as exposure in the sun, loss of sleep, excess in eating or drinking, or the return of the day in the week on which the patient has previously been attacked—will rekindle the

fire. In these cases there is always a necessity for the patient to return to a cold climate, at least for a time. The patient may recover from many attacks, and be perfectly comfortable and apparently well for a time, yet the difficulty is sure to return, if the local disease remain. The attacks of fever eventually become malignant, and the patient dies.

That class of cases in which the inflammation follows the onset of fever proceeds very insidiously, as was before mentioned, often perplexing the physician and baffling his skill, if the real course of disease escapes notice; which it is likely to do, unless particular search is made for it. Under this influence, the periodic attacks degenerate into continued fever. Therefore, on the first appearance of obstinacy, a thorough *manual* examination should be made. The *subjective* signs are of little comparative value.

Splenitis is much more easily detected than hepatitis, as the organ becomes larger, harder, and more irregular in shape, frequently presenting sharp angles, and yet, strangely, this has escaped notice for a long time. It has, even in some cases which have come under my care, so far enlarged as to interfere with the movements of the heart, and then for the first gained the attention of the patients, who have supposed that they suffered from cardiac disease.

I may here remark that this chronic enlargement of spleen is not peculiar to whites on this coast, though more troublesome and dangerous to them than to natives. The native children often suffer from it. The abdomen is greatly enlarged by the viscus, and its outlines are occasionally visible through its walls. The same is true of grown persons, in some localities and under some circumstances. I have noticed that pregnant women (natives) have enlarged spleens, particularly in the puerperal state, immediately after delivery. Some have been brought to me in this condition, which, to the natives, seemed hopeless. Such, however, are extreme cases. Ordinarily, the disease readily yields to treatment; often, no doubt, subside spontaneously.

Cerebral inflammation, and congestion are not unfrequent complications of fever. The pain of inflammation may be neglected on the supposition that it is only the effect of fever. It is not easy to draw a line of distinction between the pain of incipient inflammation and that of fever; but the pulse affords the best datum. If the pulse remains full, strong, and frequent after the time for the remission, or if it rise with the pain, there is good reason for suspecting inflammation. In all cases in which the headache has resisted the ordinary palliatives, and has continued into the second intermission, I have not hesitated to use active remedies, particularly in those cases in which unnatural sounds have been heard by the patient.

Malignant Fever. The term malignant is here applied to certain forms of remittent and intermittent fevers, that are characterized by several dangerous symptoms, which, on account of their severity, demand a separate consideration. This form of fever is by no means regular in its mode of attack. It may begin as a benign intermittent, showing its peculiar character only in the second paroxysm, or may show its nature at the onset. Occasionally, the patient is pale and feeble for days before the attack, having various other premonitory symptoms as described above. In several instances it has, under my observation, followed attacks of benign intermittent, after the interval of a *week*.

At the commencement, the patient's skin assumes a yellow color; the face a haggard appearance. It seems shriveled and pointed even before the chill comes on. Immediately after the chill (perhaps before it has passed off), the urine, which is usually free, becomes red or black. The stomach next becomes irritable, ejecting yellowish fluid, with the ingesta. The bowels are often free, and move with yellow or red dejections.

These symptoms may not be all present or well marked, at first, but usually appear to a greater or less extent during some part of the paroxysm. The patient is usually stupid, but showing signs of great distress—often moans and turns

from side to side. These symptoms constitute the first paroxysm. There may be, however, a previous mild paroxysm, which is not here considered. After a few hours there is an intermission, in which there may be a decided amelioration of all the symptoms, but the yellowness of skin and red urine do not disappear entirely.

At the end of twenty-four hours (as I have only seen this form in quotidian type), the disease returns with augmented force. The patient is tortured with thirst, but vomits all ingesta; bowels become irritable, so as to reject all injections per rectum, the urine assumes a darker hue, often foams as it is passed into the chamber, the alvine evacuations become bloody and the ejections from the stomach become green and finally black; and the mental obtuseness increases with the other fatal appearances.

Toward the close of the second day there may be an attempt at an intermission, which, however, in cases without treatment, has always, as far as I know, failed. During the third day the patient becomes insensible, the pulse irregular, the breathing slow, often less than sixteen respirations in a minute, which afterwards degenerates into a deep sigh which is repeated at an interval of several seconds. In another class of cases, the patient retains his senses much longer, and the respiration remains nearly natural for a much longer time, but the surface in these cases seems to be much sooner paralyzed, becoming cold and cadaverous to the touch, the stomach *seeming* to be in the same condition. The pulse becomes feeble and rapid, until it ceases entirely at the wrists, which happens several hours before death. This often takes place within sixty hours. I have not seen a third intermission in a fatal case, for although the patient may live until the fourth or fifth day, all distinction of stages is lost.

The peculiar symptoms of this fever, by which it may frequently be detected very early in its course, are yellow skin, red or black urine, together with vomiting of yellow fluids, and intense restlessness or stupor, frequent chills following each other at six or eight hours interval, or one violent chill followed by stupor or violent pain in the head.

These observations refer to the disease unchecked by treatment. If, however, the appropriate treatment is early and vigorously used, the second paroxysm may be ameliorated or prevented, and the disease terminated on the third day.

In all cases of malignant fever, any inflammatory complication will aggravate the disease. Most of the fatal cases that I have seen have been of this description. Some of the cases have suffered under old splenitis or hepatitis, or it had been found too late, as recent inflammation had sprung up during the course of the disease.

Causes of Fever. Without dispute, the great exciting cause of this fever is found in the constitution of the atmosphere. It is a *malarious* fever. The peculiar depraved condition of the air on which this propensity to fever in Europeans depends, I am unable to determine, at least I am not satisfied with any explanation I have seen or can assign. The heat of climate is not excessive. The thermometer, in all localities along this part of the coast from which I have been able to obtain observations, has ranged from 65° to 90° (F.); a degree of heat less than in many salubrious localities in other parts of the world. Of the comparative *moisture* of our climate, I cannot make any just estimate, as I have had no opportunity to compare my hygrometric observations with others. This, however, I may hope to do at a future time. My belief is, that we have, at a short distance inland, as dry an atmosphere as the heat of the climate will allow.

We find but little mould and decay in places well protected from the sea breeze. The prodigious production of fungi in various localities on this coast, as *described in books*, I have never seen or heard of *here*.

The predisposing causes of fever are numerous. Among the most important are sedentary habits; in which many are led to indulge by the debilitating influence of the climate. All students and writers, who do not take much active exercise in the open air, are subject to fever. Many ladies, on various parts of the coast, living in inactivity, suffer from fever. Temperament is a predisposing cause. Persons of a

nervous temperament, and those of light hair and fair complexion, or those of dark complexion but of strumous habit, are peculiarly susceptible to the influences of this climate. Licentious indulgence, for which degraded Europeans find ample scope on this coast, predisposes to fever in a large number of cases. Intemperance *indirectly* subjects a person to the malarious influence. Though the first effect of spirits is to protect from atmospheric influences, yet, after this effect has passed off, the person is more liable to contract fever than a temperate man, and this is likely to be more violent. Sailors who remain on shore over night, in a state of intoxication, are usually attacked with fever, although sober men may frequently do so with impunity. From the best information I can obtain, I am led to suppose that the white soldiers, formerly used (or rather lost) on this coast, fell a sacrifice to habits of intemperance.

In females, that condition of system attendant upon the menstrual flux is a strong predisposing cause. Many females are attacked with fever at their monthly periods. In case of uterine disease the predisposition is still stronger. One attack of fever predisposes to another. The sooner a person is attacked, after his arrival on the coast, the more frequently and severely is he likely to be attacked. As fever follows the hebdomadal period in its return, the recurrence of every seventh day after any attack will predispose to fever. The intervals at which different persons are attacked are various. Some suffer weekly, some bi-weekly, some tri-weekly, or monthly. The most common interval within my range of observations has been fourteen days. The bracing air on the coast often produces fever in those accustomed to the atmosphere of the interior. A change of place is a cause of fever in many: even in persons who go from an insalubrious to a more favorable climate. This is often the case with persons going to sea; they often suffer from one or two severe attacks of fever.

Besides a propensity to fever, on a temporary change of residence, I have noticed that particular persons enjoy much

better health, in localities considered very insalubrious, than in those that are inhabited with safety by large communities, and, on return to those localities, they have regained the health that they have lost in these *apparently* salubrious localities. A long residence in a malarious region powerfully predisposes to fever. This effect is produced indirectly by causing visceral disease; in other cases, by producing the debility common in hot climates; but, beside these effects, a long residence begets a proneness to fever, in sound and strong men. Hence the necessity of occasional retreats to cool and salubrious countries.

Treatment. The treatment that I have resorted to most successfully in mild fever is very simple. It is entirely prophylactic. It is designed to prevent the attack, or rather to prevent its full development if detected early, or the repetition, if the paroxysm is fully formed. During the forming stage, I have given quinine in sufficient quantities to bring the system entirely under its influence before the chill comes on. This is possible in many cases, though frequently patients do not detect the premonitions of disease; in this case, we must wait until the intermission. In numerous cases, however, in which patients have been willing to attend to their own feelings, and employ remedies faithfully when they have felt the approach of fever, I have had the gratification of seeing them enjoy perfect immunity from this species of disease, though previously suffering from frequent attacks.

The same success has attended the use of remedies in cases in which fever returns at fixed intervals. The patient takes quinine just before the time of the expected attack. It is safer to commence the use of the remedy the day before, so as to anticipate the disease. This use should be continued every seventh day for a long time; the quinine should be taken in sufficient quantities to be slightly felt by the patient. The peculiar sensations produced by this remedy are singing about the ears, or whistling, or dashing sounds accompanied with deafness. This, however, is characteristic; it *seems* to be

produced by filling the ears with some soft substance. It is not a simple loss of hearing. Ten grains in a day is ordinarily sufficient. The quantity required in health is less than in the best intermissions. In ordinary intermittents, it is not designed to cure the paroxysm, but to mitigate its violence, if severe, and prevent its return. To effect this with certainty, the quinine should be given soon after the hot stage has begun to subside. Though this is not customary in many countries, the treatment being delayed until near the end of the intermission, I consider it necessary here for several reasons: 1st. The intermission may be short, the paroxysm anticipating its hour on the succeeding day. 2nd. An irregular chill may set in. 3rd. Though a person may have been subject to tertians only, he can not be sure that the same type will be preserved. The fever is liable to become quotidian on any new attack.

For these reasons, I have not ventured to delay the treatment long after the commencement of the intermission. Besides, it occasionally happens that there is much difficulty in bringing the system under the influence of the remedy, and, consequently, time is needed. It is far better to begin too soon than too late, as the only difficulty arising from this course is, the unpleasant sensations produced during the time. It is the aim of the physician to pre-occupy the system with quinine. In this way, the fever will either be unable to rise, or be greatly mitigated in force. These remarks will apply to remittents as well as intermittents. Greater care is required to observe the first decline of the fever, and make use of vigorous treatment. If there is no complication, the same remedy is sufficient.

In administering quinine, I have been accustomed to give six grains every hour until its peculiar effects were produced. This usually takes place at the end of three hours—often sooner. After this, very small doses (two or three grains), once in two hours, will keep up the effect until the time of the expected paroxysm has passed. The medicine should be so administered as to bring the system under its influence

three hours before the expected attack. If it is not convenient to administer the medicine in small doses frequently, ten grains may be given at the beginning of the intermission, and repeated at the end of four or five hours afterwards, always repeating smaller doses to maintain the effect of the remedy. In most cases, twenty-five grains given in time will produce all the effect desired, will prevent the return of the chill, but, in some conditions of the system, twice that quantity is necessary. As has before been said, the effect upon the system is the only guide in the administration. If a large quantity is demanded to produce "quininism," there is, as I believe, the greater necessity for the full action of the medicine. As to any theoretical objections to the use of fifty or sixty grains in one day on remission, my experience in my own person, as well as in numerous patients, proves them to be absolutely imaginary. I have never seen a case prove fatal or even troublesome, for any length of time, that was treated with decided doses of quinine. All the deaths that have occurred within my observation, have been in cases in which small doses of quinine have been administered, or in persons who have been unable to retain this remedy in any doses.

Hitherto I have considered the use of quinine as a prophylactic, given in the intervals or before the actual onset of disease. I have used the same remedy successfully to subvert fever. In several cases, violent *continued* fever has yielded under the constant use of quinine. The amount required to affect the system is greater during fever than in its absence, but a persevering use of the remedy will produce its characteristic effects, and the disease will eventually yield. The resolution of the fever is not, however, so sudden or entire as the spontaneous resolutions of the paroxysmal forms. As it regards the time at which the quinine may properly be administered, in cases that show no disposition to remit, I think it is not advisable to delay more than eighteen hours from the time of invasion. If the fever persists beyond this without an attempt at remission, I give the quinine to produce

one. I use quinine in this manner from a conviction that it is not a stimulant.

It often depresses the pulse and produces free perspiration. It has never occurred to me to see any increase of pulse, either in force or frequency, from large doses—on the contrary, I have seen decided diminutions of frequency in various cases in which the largest doses were administered. In a healthy person, largely under its influence, the pulse is slow, full, and soft, the skin cool, soft, and moist.

In the administration of quinine, there is often much difficulty in so covering the taste as to secure its retention in the stomach. Many persons conceive a great repugnance to it after frequently taking it. It often causes nausea, and is sure to increase it if pre-existing. Though a person may take it in health without difficulty, on the attack of fever the stomach rebels. The difficulty depends upon the bitterness, or, subsequently, upon the action of the medicine upon the stomach. A variety of expedients have been used to introduce the quinine into the system. It has been exhibited by the mouth, concealed in various menstrua; it has been given in injections, per rectum, and by frictions to the skin. It has been combined in form of pill with various substances, as morphine, or crude opium, oil of pepper, or camphor. These are designed to prevent subsequent nausea, and the pillular form obviates the bitter taste. I have usually found this the most available form, the only objection being its tardiness in operation. If, therefore, the time is limited, it is not safe to trust the pills. If they are made of some very soluble menstruum, they may be used in ordinary cases.

I have found a little treacle, or paste made of flour and cold water, very soluble. They, however, degenerate by age. Quinine pills made with an aqueous solution of gum Arabic, soon become as insoluble as marble; the "syrup of gum" is but little better than the solution. I have seen pills of this kind discharged, per anum, on the fourth day, unchanged. Quinine given suspended in coffee or tea, loses

most of its nauseous taste, and does not nauseate afterwards. Some can take it in wine, and others in the bitter tinctures, the gentian and cinchona substituting their own bitterness for that of the quinine. The aqueous solution (or suspension), if tolerable, is the most prompt and valuable mode of administration; some acid united with it is thought to hasten its action; it doubtless increases the bitterness. The administration by enema, with starch and laudanum, is a very convenient mode, and is a very good resort in case the patient cannot swallow the medicine. There must be an addition of one-third or fourth, as it does not operate as powerfully as if given by the stomach. Some use acid, but it irritates the bowels, thereby causing its own discharge.

Of all other anti-periodic remedies recommended by authors, I have found none worthy of confidence, except the arsenite of potash, which has done good service as an adjuvant of quinine. I have prescribed the tincture, wine and infusion of cinchona, as tonics and prophylactics, to be taken constantly for months, and have seen them produce very good effects. The treatment to be used during the chill consists of stimulants, internal and external, and applications of heat. The patient usually covers himself in bed, and finds some comfort in the application of heated irons or stones, or bottles of hot water.

The stimulating frictions used are mustard or pepper. The first is frequently applied in poultices, to large surfaces on the back, arms, and legs, and often proves very beneficial in equalizing the circulation and restoring the temperature. The fresh peppers, if actively applied, produce much burning, which usually cuts short the chill, and seems to lessen the succeeding fever also. It seems to check the whole train of morbid phenomena; the pain in back and limbs quietly subsides with the general distress accompanying it. The great objection to the use of the peppers is, the difficulty of controlling or regulating its effects. The patient often suffers severely, and it is difficult to assuage the pain. In some cases it has been necessary to use the cold bath,

but such is the effect of the stimulations of the pepper, that the chill does not return, even in the cold water. The vinegar, or tincture of the peppers, may be used more safely —they do not produce such violent effects.

The only treatment, during the hot stage of simple fever, is diluents, as lemonade, and other acid and cold drinks. If the urine is scanty and very high colored, the spirits of nitre may be given in water or weak tea. In case of costiveness, this is the appropriate stage for the exhibition of cathartics, which should be given so as to act from four to six hours after the commencement of the fever. Given in this way they not only fulfill their primary indication, but they assist in bringing about the stage of resolution, if they operate at the time at which the hot stage would naturally pass off. The best cathartics appear to be the resinous, in combination with calomel. The "compound cathartic pill" is very useful and easy of operation. I, however, have used a similar combination with hyoscyamus, which is often needed to prevent the irritating effects of the other remedies.

The constant and indiscriminate use of cathartics in fever, cannot be other than injurious. I have seen much irritation of the bowels and nervous depression arise from their use in the early stages of fever, and general prostration in the later stages. I do not believe it is best to give cathartics, simply because a patient has fever, but only for the relief of some unfavorable symptom, or to correct some deranged function, or act upon a diseased organ. In complicated cases, they are necessary, and must be used; but if the fever is simple and benign, and the bowels open, the patient will be quite as safe and much more comfortable without. In case of continued, or obstinate remittent fevers, I formerly gave calomel in small "alterative" doses, and with some success; but I was often disappointed in the result, though ptyalism was produced, and I found the operation of the medicine more prostrating, and convalescence more tedious, than in the exclusive quinine treatment. In great heat of body and dry skin, I have used the cold bath; or, if the patient could

not bear this, the wet sheet, or sponging with cold water. The headache is frequently relieved by the application of cold water. If the fever subsides while the pain remains, mustard to the neck and back often entirely relieves it. Morphine, under the same circumstances, also in case much nervous excitability attends the pain, will be found very useful. The infallible remedy, however, is leeches. In all cases (when other means have failed), I have found them entirely successful. Cupping the temples, though less convenient, is a substitute for leeching. Nausea, if urgent and continued, may be relieved by effervescing draughts, or mustard to the epigastrium, or, if these fail, by some preparation of opium; the "black drop," or opium pill, are perhaps most efficient. Hydrocyanic acid is sometimes very efficient. It has been administered in connection with quinine, with happy effects.

In complicated fever, an energetic course of treatment must be adopted.

If the inflammation is active and recent, either of liver, spleen, bowels, or stomach, leeches should be freely applied, or, in the absence of these, cups. In connection with these means, calomel, in small doses, is very useful. Its use should be carried to slight ptyalism, unless the urgency of the symptoms abates. In splenitis of a violent grade, I have seen all pain and heat abate under the use of leeches alone. I have never found it necessary to use mercurials largely in this disease. Blisters have followed the primary treatment, that of abstraction of blood, and completed the cure. Cathartics are of more value in splenitis than in the other inflammations just mentioned. In one severe case of gastritis, for which I was unable to obtain leeches, I trusted entirely to mercurials; on the commencement of ptyalism, which took place very promptly, the pain and nausea of the disease suddenly subsided. So remarkable was the coincidence, that the patient, unasked, pointed it out.

In hepatitis, blisters may be used early, as the inflammation soon becomes sub-acute; they may be applied the sec-

ond or third day after the leeches, the bites being covered with bits of adhesive plaster, or, if the "fluid" is used, it may be applied around them. They are very useful in subduing induration, and in chronic cases, vesication is the great local remedy, to be used in connection with mercurials. All such cases, however, should be actively treated after the fever is subdued, its return being guarded against by the timely use of quinine. In the treatment of the complicating local disease, the fever is not to be forgotten, but in the remissions is to be treated with quinine.

These cases are tedious, being protracted by the local difficulty. In cerebral complication, I have always used leeches with success. I have never, in whites, been obliged to resort to general depletion. The leeches have been followed with cathartics. Under this treatment all my cases have yielded. Quinine, with morphine, in the remissions (which are often but slight), gradually subdue the fever.

In malignant fever, the treatment must be prompt and energetic, as the case is almost certain to prove fatal if it goes on to the third paroxysm.

If there were, in all cases, a certainty of gaining a perfect intermission, after the first paroxysm, quinine might be depended upon as a safe remedy, as I believe the disease is controllable, when there is an opportunity of bringing the system entirely under the influence of this remedy; but, as the intermission is often imperfect, I have thought it safer to give calomel during the first paroxysm. I have given 20 grains at a single dose as a cathartic. At the first operation, the urine has notably changed in color, and other symptoms have been mitigated in severity.

The system should then be brought entirely under the influence of quinine, as early in the intermission as possible. The same treatment should be used in the second intermission. If the second paroxysm is severe, the mercurials can again be used, but in less quantity, or the quinine may be continued in connection with it. Usually this paroxysm will be light, and the fever lose its malignant form.

It may then be treated on the principles before laid down, although this treatment should be continued for some days after the cessation of fever, to guard against a relapse.

If hepatic, or other inflammation, complicates these cases, the treatment is rendered more difficult, and the danger is greater, but the patient's condition is by no means hopeless.

Diet.—During the intermissions, I have always restricted patients to light food, as broths, gruels and farinaceous articles; the appetite does not generally crave more. The use of quinine tends to take away appetite for the time.

To me, the food during convalescence has never been an object of great care. The system is seldom greatly reduced in strength and flesh during an attack of fever, consequently the patient soon returns to his ordinary pursuits. Under these circumstances, I have not hesitated to permit him to eat moderately of such food as his appetite has craved. I have seen no injury accrue from such a course.

In case organic disease remain, I have enjoined abstinence from all stimulating food, at least for a time.

ART. II.—*Anesthesia in Surgery. How its dangers are to be avoided.* By FREDERICK D. LENTE, M.D., Surgeon to West Point Foundry.

BUT a few years since, the astonishing and grateful information was promulgated from Boston to the medical profession and to the world, of the discovery of an agent which was to rob surgery of its terrors, and sickness, to some extent, of its pangs. An extensive trial, promptly accorded to the agent, by surgeons, exceeded their most sanguine expectations; and the anesthetic, sulphuric ether, was, with some few exceptions, put into very general requisition, not only by *surgeons*, in almost all operations, great and small, but by dentists, to some extent, by accoucheurs, and even by the unprofessional, in some cases to allay pain, in others merely to procure the pleasure of an agreeable and speedy intoxication. The discovery of another anesthetic, more speedy and convenient in its application, cheaper, and less disagree-

able in its immediate effects, was at this time heralded across the water, soon almost entirely superseded the American anesthetic, and was applied to all the various purposes for which its predecessor had been employed. So far, although anesthesia had been employed without the least fear, and with but little precaution by those skilled and unskilled in its use, no untoward result had occurred or was reported. But, very soon, a death occurred from *chloroform*, then another and another in quick succession. This led to its more careful and restricted use by some surgeons, to its total abandonment by others, but the general mass of surgeons and physicians still continued its use, with more regard, however, to its now admitted danger, and, of course, with more caution in its administration; while the public generally took the hint, and were not so ready to demand anesthesia of the surgeon and dentist for every trivial pain or operation. This checked the increasing mortality from its use; and, for some time, only a scattering case, here and there, in this country and in Europe, appeared occasionally in the journals, the cases generally occurring in public practice.

This state of affairs has continued up to the present time; the individual cases of fatal anesthesia occurring now and then, in the various journals, have gradually added up to a rather alarming sum total. Occasionally, two or three, happening in quick succession, put the profession more on the *qui vive*, and a suspicion is now and then hinted that the aggregate of fatal cases made known to the public does not include an unestimated and perhaps larger number which have happened in private practice, and have been, for obvious reasons, concealed from public scrutiny; so that there is, at this time, an evidently growing distrust of the agent, both in and out of the medical profession, which may soon threaten to banish this "great boon of humanity" from surgery altogether.

In some parts of the continent of Europe, it is stated that the use of anesthetics has been recently regulated by public authority; that chloroform has been altogether abolished in

the Massachusetts General Hospital, by its managers; and in other hospitals and public institutions, in Philadelphia and elsewhere, the employment of anesthesia is falling into comparative disuse. We need only a few prosecutions of surgeons—by some of the indignant friends of those deceased from the alleged effects of chloroform, similar to those suits which are now and then instituted for other so-called malpractices in surgery, and which we may look for at any time—to complete the overthrow of chloroform, as well as all the anesthetic agents. A case of this kind was very near happening in the city of New York, as long ago as five years, and with which we became conversant by being acquainted with the party most interested, the husband of the patient, who, laboring under puerperal mania, died suddenly, soon after the administration of chloroform (alleged in inordinate quantity) by her medical attendant. The affidavits of the witnesses were all made and sworn to, and the case on the point of being confided to the hands of a lawyer. It is the object of this paper to ask if there be not some means of arresting this tendency, and of restoring the use of anesthesia, in surgical practice, to the original confidence of the profession and the public, and, at the same time, to suggest a remedy, and a very simple one, too, for this object.

Upon its becoming generally known to and admitted by the profession, that death might result from even the appropriate and cautious use of chloroform, other more safe anesthetic agents were sought for, and numerous substitutes, not necessary to be alluded to here, were introduced and tried, with but partial success. Local anesthesia, both by chloroform vapor and by congelation, as in Mr. Arnott's plan, has also been advised, but so far has not gained much favor with surgeons; so that it appears that *chloroform* is still the agent almost exclusively employed by the general mass of the profession, especially in private practice.*

* Chloric ether, recommended and employed by some as a safer agent than chloroform, has been discovered by recent experiments, by Mr. Donovan, of Dublin, to be either Dutch oil or chloroform in an insoluble state, and he asserts that there is no such compound as *chloric ether*.

So far as we are acquainted with the history of this subject, it was at the New York Hospital alone that the most obvious and simple remedy for the dangers of chloroform was applied, namely, a resort to the original anesthetic of Messrs. Jackson and Morton, of Boston, sulphuric ether. This had been tried in a great number of cases in that institution, and in hundreds of others elsewhere, and without any untoward result, and was only given up for chloroform, as being less convenient and speedy in its application. It was most natural, then, that, after the occurrence of the first fatal case from the latter, its more safe and equally effectual relative should be substituted for it. *Sulphuric ether* has continued to be the principal anesthetic agent in that Hospital, since the period alluded to, some six or seven years ago, and we are not aware that any trouble has since been experienced there in its administration. During our connection with the Hospital, we were in the habit of using it, and seeing it used almost daily, in every variety of surgical cases; and, in private practice and among the patients of the foundry, we are still using it, to the exclusion of any other anesthetic,* and we always find it fully as effectual as chloroform, though not so speedy and convenient, never having met with but one case that resisted its anesthetic influence; and we are fully persuaded that the same result would have happened in that case with chloroform, as the patient was an exceedingly nervous and hysterical female, and was thrown into a violent fit of hysteria as soon as the partial influence of the ether was felt. As the operation to be performed was of small moment, it was considered prudent not to persevere with the ether, or to try chloroform; and we are quite sure that, up to the present time, *no instance of fatal result has been recorded from the use of sulphuric ether.* It is possible that,

* It is but just to mention, that we have been compelled to make two or three exceptions to this rule in practice, namely, in cases of obstetrical operations, where we had no assistance save that of old women, and where necessity compelled the use of the most speedy and convenient agent, to meet the urgency of the cases.

were this to be used as widely as chloroform has been, some fatal cases might occur, but we think not, for the reason that, with it, *it is impossible to induce full anesthesia so rapidly and suddenly* as with its more dangerous competitor, however freely it may be applied, and we think the only difference in the danger between the two lies in the fact of the suddenness of the effect of the chloroform, an effect occurring sometimes as well from a small as a large quantity,* and not generally to be foreseen or guarded against, even by those most skilled in its use. The manner of administering sulphuric ether is somewhat different from that usually employed with chloroform. To be effective within a reasonably short time, it must be given rapidly, and the access of air cut off as much as possible, the reverse of what is safe with the other agent. The only effective inhaler we have used, or seen used, is a large cup-shaped sponge, sufficient to cover completely the nose and mouth, and covered with a thick folded napkin to prevent undue evaporation as far as possible —there will always necessarily be a sufficient supply of air through the sponge, in spite of all the coverings; into the sponge about an ounce of ether is poured, and, after holding it at a short distance from the face, for the space of half a minute or so, it should be held close to the mouth and nose, and kept there until the full effect is produced, generally two or three minutes. Owing to the rapidity of the evaporation of the ether, it requires to be more frequently renewed than the chloroform; the more abundant the supply in the beginning, the more rapidly will the effect be secured, and the smaller the quantity of the material actually consumed. Generally, we have found two to three ounces sufficient to induce full anesthesia, but if the operation is at all prolonged, sometimes a pint and a half, or it may be a quart, is required; seldom this extreme amount, however. One disadvantage which the ether labors under, and which does not apply to

* Cases of death from it are recorded where it was said only ten or fifteen minims were used; whereas, an ounce or more may oftentimes be used with impunity.

chloroform, is its great inflammability, which only renders caution necessary, when operating under its influence by candle-light; but all danger may be readily guarded against, in this respect, by a little care.

ART. III.—*On the Early Application of Nitrate of Silver to the Fauces, in the Treatment of Scarlatina.* By E. MACFARLAN, M. D., Williamsburg, N. Y.

THE treatment of Scarlatina is as yet by no means well established, and admits of much improvement.

The more severe forms, in which the throat becomes largely implicated, are what I wish more particularly to treat of in this article. Practitioners generally, and all authors, inculcate the idea that blood-letting, general and local, is necessary; at least in many cases in which the inflammation of the fauces and tonsils is severe. Cathartics also are advised.

The plan of treatment that has proved eminently successful in my hands, is one to which I would call the attention of the profession, and which is at least worthy of trial.

From the first, my patients use the warm bath. I continue these for several days, generally till the eruption is on the decline. The throat, as is well known, is, from the commencement of the disease, much involved. By most practitioners, in fact I may say all, no local internal applications are made until the tonsils are much swollen, and even suppuration and ulceration have taken place. I never wait for this state of things; my plan, and the one I believe to be in accordance with sound reason, is to apply a strong solution of argent. nitrat. to the fauces and tonsils at the onset. In every instance, I have succeeded in cutting short the inflammation. In other words, I treat this condition of the throat in scarlatina just as I do an ordinary case of tonsilitis. It was the analogy that led me to adopt this mode of practice. Where the child is old enough to use gargles, I order a simple gargle of bor., soda and alumen sulph. By this mode of practice we prevent suppuration, and ulceration of the tonsils. I give quinine internally when there are signs of debili-

ty. Broths, farina, etc., etc. I never use purgatives unless there is constipation. Cold drinks are always grateful to the patient during the fever. In my opinion, they may be allowed in almost every case.

In conclusion, I would call attention to the anticipatory treatment here recommended. I am aware that nitrate of silver has for some time been used in the last stage of scarlatina, or, in other words, when the fauces and tonsils are so much swollen as to render suffocation imminent; and ulceration soon appearing, increases the patient's distress. As above stated, by the early use of the nitrate the inflammation is cut short, and thereby the train of sufferings that would otherwise follow is avoided. I am well satisfied from observation, that if this method of treating scarlatina should become general, there will be far less fatal cases than at present.

ART. IV.—*Epidemic Cholera as it appeared at the Franklin St. Hospital, during the Summer of* 1854. By J. H. VANDERVEER, M.D. Physician to the Franklin St. Cholera Hospital.

THE disease upon which the following remarks are offered, although one of remote origin, is still shrouded in mystery, and presents a formidable aspect to physicians of modern times.

It is not proposed that these observations should be considered as a scientific treatise on cholera, but simply a plain and brief statement of the cause, preventive, and curative means considered and pursued at the Franklin St. Hospital, during the epidemic of 1854.

The hospital in Franklin St. was opened to receive patients, June 25th, 1854, (although there came under my observation many cases previous to that date, one as early as June 3rd). It was closed Sept. 6th, the last patients being received on August 31st, (the Mott St. Cholera Hospital received patients until October). Whole number received at the Franklin St. Cholera Hospital, 606; whole number died,

255, including those received dead, moribund and dying. Number discharged cured, 351. Whites, 591. Negroes, 15.

Sexes.	No.	Died.	Cured.	Per Centage. Died.	Cured.
Males - - -	310	135	175	.43	.57
Females - -	296	120	176	.40	.60

Condition.	No.	Died.	Cured.	Per Centage. Died.	Cured.
Single - - -	333	113	220	.33	.67
Married - -	162	93	69	.57	.43
Widowed - -	87	41	46	.47	.53
Unknown - -	24	8	16	.33	.67
Total - - -	606	255	351	.42	.58

Nativity.	No.	Died.	Cured.	Per Centage. Died	Cured.
Scotland - -	9	4	5	.44	.56
Ireland - - -	323	134	189	.41	.59
Germany - -	135	60	75	.44	.56
United States	76	23	53	.30	.70
England - -	28	13	15	.46	.54
France - - -	6	4	2	.66	.34
Isle of Elba -	3	0	3	.00	1 00
Italy - - -	3	3	0	1.00	.00
Portugal - -	1	1	0	1.00	.00
Switzerland -	6	1	5	.16	.84
Sweden - -	1	1	0	1.00	.00
Holland - -	1	0	1	.00	1.00
Norway - -	1	1	0	1.00	.00
Bermuda - -	3	3	0	1.00	.00
South Africa -	1	0	1	.00	1.00
Poland - -	2	0	2	.00	1.00
Unknown - -	7	7	0	1.00	.00
Total - - -	606	255	351	.42	.58

From the above table it will be seen that the greatest number of patients were foreigners; the native born, with but a few exceptions, were of the most degraded class, with constitutions broken down by dissipation, and previous disease. The majority of foreigners had been here but little over five years. The following table, carefully taken at the time, shows the length of residence in the United States.

No. of Patients.	No. of Days.	No. of Patients.	No. of Months.
4	1 "	13	6 "
1	2 "	4	7 "
5	3 "	5	8 "
1	5 "	8	9 "
13	one week	6	10 "
11	2 "	1	11 "

No. of Patients.	No. of Days.	No. of Patients.	No. of Months.
5	three weeks	34	one year
24	one month	50	2 "
25	2 "	39	3 "
22	3 "	23	4 "
9	4 "	21	5 "
4	5 "	195	over five years.
124		399	
		124	
		Total 523	

The following table exhibits the ratio of age and mortality. The greater number received were about the meridian of life, or approaching it, but the greatest mortality being past that period.

Age.	No.	Died.	Cured.	Per centage. Died.	Per centage. Cured.
From 1 to 10 years	16	7	9	.43	.57
" 10 " 20 "	59	26	33	.44	.56
" 20 " 30 "	236	70	166	.29	.71
" 30 " 40 "	139	66	73	.47	.53
" 40 " 50 "	92	48	44	.52	.48
" 50 " 60 "	34	20	14	.58	.42
" 60 " 70 "	14	10	4	.71	.29
" 70 " 80 "	5	2	3	.40	.60
" 80 " 90 "	1	0	1	.00	1.00
Unknown	10	6	4	.60	.40
Total,	606	255	351	.42	.58

The recent epidemic differed in many particulars from that of former years. Previous epidemics were preceded by mild affections of the bowels; the present was ushered in together, the bowel affections keeping pace with the epidemic, and declined in the same ratio with it. Cramps in the extremities were not so severe, in some instances they were entirely absent; in the abdominal muscles the cramps appeared more severe. The consecutive stage was much more obstinate; in the latter respect it differed materially from previous epidemics: a bilious evacuation was then hailed with joy, and the patient considered safe; at present this result was brought about in all those that survived until a reaction could take place.

Table giving the stage of disease Patients were received in.

Stage of disease.	No.	Died.	Cured.	Per centage. Died.	Per centage. Cured.
First or incipient stage, - -	136	6	130	.04	.96
Second stage, - - - - - -	56	6	50	.10	.90
Partial Collapse, - - - -	167	67	100	.30	.70
Profound Collapse, - - - -	192	128	64	.66	.34
Consecutive Stage, - - -	8	2	6	.25	.75
Moribund, - - - - - -	34	34	0	1.00	.00
Articulo-mortis, - - - - -	9	9	0	1.00	.00
Dead (when received,) - -	3	3	0	1.00	.00
Dysentery, - - - - - -	1	0	1	.00	1.00
Total, - - - - - - -	606	255	351	.42	58

On a glance at the above table it will be seen that comparatively few were received in the second stage. Many, fearful of approaching danger, would be sent to the hospital in the first or incipient period; others, more heedless, and with a dread of hospitals, or ignorant of the consequences, would hesitate; while the disease would rush on to the stage of collapse. For example, one of the many instances that occurred was the following:—A woman with her infant was brought to the hospital in the first stage of cholera. After learning that her child could not remain with her, although assured that it would be well taken care of, and freer from danger than in the Cholera Hospital, refused to remain, started off on foot, exposed to the heat of the sun, and in one hour was brought back in a dying condition.

It may be well to add that the whole number treated, exclusive of the dead, moribund and dying, with one case of dysentery, was 560, and of this number died under treatment 209, per centage 37; discharged cured 351, per centage 63, including 192 patients in profound collapse, or pulseless; and of the 209 that died are included those that reacted and died with consecutive fever and other diseases, as follows:

Died with congestion of brain, - - - - - -	35
" consecutive fever, - - - - - - - -	15
" epileptic convulsions, - - - - - -	1
" dysentery, - - - - - - - -	1
" phthisis pulmonalis, - - - - - -	1
" ulceration dependent on secondary syphilis, -	2
Total, - - - - - - - - -	55

Making 154 that died of cholera or in collapse. Per centage, 27.

Many of the patients were suffering either from constitutional or primary syphilis, or from gonorrhœa, and many who were considered convalescent had relapses, and died in consequence of syphilitic ulcerations or chronic organic disease.

Among the females admitted, seven were pregnant at periods varying from four to seven months, five died, three undelivered, and two after delivery. Reaction was established in all, one of them having strenuously denied the fact of her pregnancy (being unmarried); labor having set in she immediately relapsed into a state of collapse, and died thirty-six hours after delivery. Of the two discharged cured, one was delivered; the other, being about four months advanced, went on to the natural period of gestation. Among the many complications, the most formidable and alarming were epileptic convulsions; it occurred in five patients—one female, and four males, of which one died. The female had three weeks previously been confined.

The following table exhibits the time that elapsed between the period of admission and the death of patients admitted:

No. patients.	Minutes.	No. patients.		No. patients.
20	30	1	15 hours	19 over 7 days
4	1 hour	4	16 "	3 dead when received
11	2 "	1	17 "	—
8	3 "	3	18 "	22
6	4 "	2	19 "	
8	5 "	1	20 "	
10	6 "	2	22 "	
13	7 "	52	1 day	
2	8 "	20	2 "	
7	9 "	15	3 "	
5	10 "	12	4 "	
6	12 "	7	5 "	
3	13 "	5	6 "	
2	14 "	3	7 "	
105		128		233
	Total,			255

The following table contains a record of the occupations of the patients admitted:

Occupations.	
Laborers	124
Servants	115
Housekeepers	71
Seamstresses	32
Washerwomen	28
Sailors	34
Carpenters	12
Shoemakers	12
Farmers	11
Tailoresses	11
Tailors	9
Dressmakers	7
Peddlers	6
Waiters	5
Blacksmiths	3
Butchers	3
Cooks	6
Gold Beaters	3
Printers	4
Sail Makers	2
Coach Makers	3
Barbers	2
Milliners	2
Painters	2
Cupper and Leechers	2
Porters	2
Lace Makers	2
Merchants	2
Hucksters	2
Ragpickers	2
Cap Makers	2
Moulders	2
Masons	2
Gardener	1
Jeweler	1
	527

Occupations.	
Harness Makers	2
Clerks	2
Machinist	1
Book Agent	1
Tin Smith	1
Carver	1
Cabinet Maker	1
Confectioner	1
Reporter	1
Runner	1
Horse Trainer	1
Manufacturer	1
Soda Water Maker	1
Packer	1
Showman	1
Skinner	1
Whitewasher	1
Rail Road Conductor	1
Nurse	1
Cooper	1
Ship Carpenter	1
Baker	1
Brewer	1
Saloon Keeper	1
Stone Cutter	1
Trunk Maker	1
News Boy	1
Rope Maker	1
Brush Maker	1
Steward	1
Sea Captain	1
Gun Smith	1
Unknown	45
	79
	527
Total	606

The epidemic had evidently reached its climax the third week in July, and it was more fatal previous to that date than after, as will be seen by the following table:

Rec'd from June 25			
To	July	1	27
"	"	8	64
"	"	15	73
"	"	22	85
"	"	29	72
"	August	5	81
"	"	12	65
"	"	19	58
"	"	27	53
"	"	31	28
Total			606

Died from June 25			
To	July	1	16
"	"	8	35
"	"	15	32
"	"	22	40
"	"	29	33
"	August	5	31
"	"	12	28
"	"	19	19
"	"	27	14
"	"	31	7
Total			255

The general appearance and symptoms of the cholera of 1854, as has been previously stated, differed in some respects from other epidemics, although in this disease, as in all others, the symptoms must suffer modifications from peculiarity of constitution, previous condition of health and habits of the patient affected. It has been observed, that such symptoms as indigestion, precordial weight, or oppression, flatulence, slight nausea, acidity, vertigo, headache, griping pains, and diarrhea, separate or combined, are prevalent during an epidemic of cholera. The stools are at first feculent and bilious, the *contents of the stomach* are also of a bilious character. First is thrown off the food, now tinged with bile, until the evacuations become paler, and characteristic of Asiatic cholera, and even the rice water dejections vary in appearance, sometimes tinged with a pinkish hue; others have the appearance of port wine lees; this latter appearance has been generally considered more fatal. I could not observe any difference; some writers assert cases of cholera that have died without either vomiting or purging. I should decide it to be no case of cholera, and in fact, I have yet to learn of a patient's dying with cholera, without vomiting or purging. There were several patients received in a dying condition, who neither vomited nor purged after admission, and their relatives who accompanied them stated positively that they had not previously; but what did the autopsy reveal? not a particle of food in the stomach, or fœcal matter in the intestines: one case in particular, where nothing was passed after his reception in the hospital, with the same assurance from his friends, his abdomen was found to be enormously distended, and upon examination, we discovered the stomach and whole intestinal canal distended with rice water, but not a particle of fœcal matter. The sphincter ani was so firmly contracted, that the finger was with difficulty passed in the rectum. It is evident, in such cases, that vomiting and purging take place so rapidly that the alimentary canal frees itself of its contents. The muscular action of the bowels becoming exhausted, the peristaltic

action of the intestines ceases, the sphincter ani contracts, and hence the collection of fluid. In some patients all the symptoms of cholera would be present, except cramps; it frequently occurred, that patients would pass through all the stages of cholera without the least pain. In quite a large proportion, the head was seriously involved; many cases in this condition were attributed to previous treatment, such as the essential oils, hot drops, tinct. opii, &c., &c. In many, it was evident from the odor after vomiting, also from prescriptions and vials found on their persons. The speedy determination to the head was peculiar to the epidemic, and I believe many valuable lives were lost the past summer, by a too sudden check being given to the secretions, even where cholera was not fully established. The pupils in the greater number of cases were contracted; the mammary secretions were uninterrupted, and quite as copious during the attack as previous. The infant of one patient was brought to the hospital twice a day to nurse, until the mother recovered.

Perhaps it would be well to offer a few remarks on the consecutive fever. To watch a patient, in collapse, anxiously, and to see the unpleasant symptoms, one after another, pass off, is gratifying. We now have reason to hope, but are often doomed to despair. The patient has escaped one class of dangers, but meets others quite as formidable as the first.

The stools generally were consistent, dark green, or black; in some cases the secretion of urine took place with reaction, in others it did not so soon, but quite as often in the former as the latter, but not copious. Other cases would appear to be doing well, but suddenly relapse, and die. In some instances the form of fever would appear as typhus, but comparatively few. Generally, the tongue would be clean and moist; pulse either at or below the natural standard; pupils in this stage always contracted; the conjunctivia clear; vessels not congested; no desire for food; no unnatural thirst; skin shriveled, dry and husky; temperature of head natural; the patients would lie in a sleepy

stupor, and their only wish was not to be disturbed. Arouse them, and ask them how they were, they would invariably answer, "First-rate, would like to have a good sleep." It was in this stage that singultus often occurred, which was very annoying to the patient. The disease did not appear to have any effect on the catamenia; in a number of patients, past the age of thirty, it was profuse, in one while in collapse; one female, who had been irregular at several periods, had a vicarious menstruation from the gums, corresponding with three of the upper incisor teeth; there were three different attacks at intervals of two or three hours; the patient became quite exhausted; in order to check it we had to apply a compress and cold applications.

There has been much speculation in relation to the hour of attack and death. The hour of death can readily be ascertained; but the hour of attack cannot. We are obliged to rely on the statements of patients, or their friends; in this there is no certainty. There might be two patients taken precisely at the same time, and, very likely, each one would date the time differently. In receiving patients at the Franklin-street Hospital, we noticed a greater influx of them from 11 A. M., until 11 P. M., and from the nature of the disease it is quite natural it should be so; they would more likely be stricken down when exposed to the heat and fatigue than when cool and at rest. We also noticed a greater increase after a sudden rise or fall of the thermometer, either with or without a fall of rain.

There have been many theories in relation to the progress of cholera, contagiousness of the disease, and cure. I took considerable pains to note down the more recent arrivals of emigrants, the ship's name, and port sailed from, as follows:

Ship's name.	Port sailed from.	Date of arrival at New York.
Rostede, 3	Bremen,	May 1, 1854
Eliza,	Hamburg,	August 16, "
Amazon,	Turk's Island,	" "
Empress,	Sunderland,	" "
Mississippi,	Genoa,	" 15, "
Isaac Webb,	Liverpool,	June 10, "
Sheridan,	"	August 16, "
Sea Nymph,	"	July 25, "

Ship's name.	Port sailed from.	Date of arrival at New York.
Patrick,	Liverpool,	May 25, 1854
Carl Hershell,	Hamburg,	August 15, "
American Union,	Liverpool,	" "
E. D. Stanley,	"	" 21, "
Isabella,	Havre,	September 20, "
Ashburton,	Liverpool,	April 26, "
Neptune,	Hamburg,	May 23, "
Oswego,	Liverpool,	August 29, "
Rome,	Antwerp,	" 8, "
Clementine,	"	May 21, "
Tornado, 2	Liverpool,	July 20, "
Orpheus,	Bremen,	June 29, "
Pemberton,	Cork,	July 31, "
Spark of the Ocean,	Havre,	April 23, "
John Hancock,	Liverpool,	February " "
Corinthian,	Antwerp,	May 20, "
Vater Grunner,	Bremen,	July " "
Charles Hill,	Havre,	May 19, "
Columbia,	Liverpool,	July 8, "
Aspheus,	Bremen,	June 29, "
Progress,	Liverpool,	May 28, "
American Congress,	London,	April 21, "
Budget, 2	Bremen,	July 12, "
Catharine Augusta,	Antwerp,	" 29, "
Rocinus,	Liverpool,	May 16, "
Robert,	Bremen.	August 4, "
Jordan,	Liverpool,	" 8, "
Admiral,	Havre,	" 19, "
Peter Hatrick,	Antwerp,	May 16, "
Canalus,	Havre,	June 13, "
President Smidt,	Bremen,	January, 16, "
Bajapore,	Liverpool,	June 29, "
Isabella,	Havre,	April 4, "
Eleanor,	Limerick,	May 23, "
Wm. Henry Hasbrook,	"	April 20, "
Western Empire,	"	June 23, "
Lincea,	Liverpool,	July 9, "
Bremen,	Bremen,	May 23, "
Guttenberg,	"	" 24, "
Webster,	Liverpool,	June 29, "
John White,	Antwerp,	May 11, "
Brother Jonathan,	Havre,	July 7, "
Agnes Litz,	Liverpool,	May 23, "
Sir Isaac Newton,	"	January 24, "
Continent,	"	May 22, "
Empire State,	"	March 2, "
Regulus,	Bremen,	July 21, "
Rhine,	"	June 30, "
St. Nicholas,	"	March 18, "
George DuKwitz,	"	May 11, "
Suwarrow,	Havre,	July 24, "
Wm. A. Cooper,	Antwerp,	May 24, "
Senator,	Liverpool,	April "
Total, 61		

It has been stated that the epidemic cholera of 1854 made its first appearance in Asia, 1851, and thence to Europe, 1852 and 1853, especially in the Germanic States, and statistics show that the large sea-port towns suffered severely.*

Now, if cholera is so very portable or contagious as to follow the emigrant and his baggage to America, and show itself wherever he shapes his course, or makes his stopping-place, why did it not appear here before the summer of 1854? Certainly there was quite as large an emigration in '52 and '53 as in '54, and from some of the identical ports affected. It will be seen by the above table that out of sixty-one vessels arriving at this port, there came to the Hospital sixty-five patients; being *three* from one, and two from two others, leaving one only from each of the fifty-eight remaining vessels. It is true there may be localities where its ravages are more fearful than others; and persons traveling from such places being attacked on the road, or at their journey's end, does not prove that it is portable or contagious. We received from some dwellings greater numbers than from others; but every physician knows that there are places that might be termed hot-beds, fit to nurture any disease, that might be prevalent at the time. In former epidemics it appeared to follow the water courses, sea-port towns, large rivers, and their tributaries. The past summer it took a wider range, and spread further in the interior. The distribution of the disease in the city was pretty general, commencing in the lower part of the city, and working northward and eastward. The following table gives the number from each ward:

	Number from each ward.			Number from each ward.	
1st	Ward	48	10th	Ward	5
2	"	12	11	"	10
3	"	22	12	"	1
4	"	64	13	"	9
5	"	55	14	"	12
6	"	112	15	"	7
7	"	25	16	"	10
8	"	13	17	"	15
9	"	10	18	"	24

* See *New York Journal of Medicine*, Nov., 1854.

Number from each ward.	
19th Ward - - - -	12
20 " - - - -	6
From Commissioners of Emigration - - - - -	18
From Vessels in port - -	17
" Ward's Island - -	2
Strangers not belonging in the city - - - - -	35
From New York Dispensary -	8
Unknown - - - -	54
Total,	606

It will be readily seen, that the greater numbers came from those wards where are located the most tenant houses, with less regard to ventilation, or infested with those brothels of filth and degradation, as the Five Points.

I should think the following would satisfy any contagionist that the disease is not communicated from one to another. The Hospital building was small, but two stories high. The first floor and male ward was 25 feet by 35, which contained at one time, when the disease was at its height, 25 patients. The second floor and female ward was 25 feet by 30, and also contained at the same time 25 patients. The sleeping apartments of both nurses and physicians were in direct contact with the wards of the patients, the doors and windows had necessarily to be thrown open that there might be a free circulation of air throughout the rooms, and for a week or more, when the wards were crowded, the attendants had to sleep as they could catch a nap on the next bed to a dying patient. The yard in the rear of the Hospital was enclosed by a wall 12 feet high, the size was 20 feet by 30; it was used as follows: one end was taken up by water-closets, one part was set off for cooking, or, in other words, used as a kitchen, one part as a wash-house, another, about 8 feet by 10, to examine patients in after death. We examined 78 patients, the most of them very minutely. We punctured our hands frequently, and had them imbrued in the fluids without any bad results following, and in order that no part of this small piece of back ground should be unoccupied, the remainder of what has been disposed of above was used as a deposit for the dead, until removed by friends or the dead-cart. There were always more or less there, for six hours at a time, and in one instance there were piled up ten coffins, exposed to the rays

of a summer's sun ten hours, until they became so offensive that the attendants could scarcely endure it. We numbered at the hospital 20 persons, physicians, nurses and attendants, and but one died with cholera. The others enjoyed good health, without any symptoms of cholera throughout the time they were engaged. The man who died was a *Swiss*, employed as a sedan carrier to bring patients to the hospital, of temperate habits, used to drink large quantities of soda water. He complained one day that the work was too hard for him and that he would like to leave: permission being granted, he went; five days after he was brought to the hospital in a dying condition. Examination after death found the lungs adherent to the pleura, nearly in their whole extent, and tuberculous.

Morbid appearances observed after death.—Apart from the usual external appearances, in many the skin showed patches of ecchymosis; and this was not strictly confined to the skin, it frequently showed itself in the abdominal viscera. Among the appearances we met with, unconnected with cholera, which were numerous, may be mentioned tumors, old abscesses, ancient thickening and osseous productions of the membranes, diseases of the heart, lungs, and blood-vessels, morbid lesions of the liver, gall-bladder, spleen, kidneys, uterus, and of the stomach and bowels. Diseases of these organs we saw in almost every case, either singly or combined, and of which we selected some valuable specimens. It would seem from this, let the cause be what it may, cholera more generally selects diseased subjects for is victims. Of the above named organs involved, the lungs and kidneys predominated, the former more generally from pleuritic adhesions, tubercles, abscess and hepatization; the latter from softening and fatty degeneration. Of the 78 autopsies made, I have nothing new to add. With but few exceptions, we saw what was seen and spoken of years previously, from the head to the feet, the whole system highly engorged with dark blood, blood-vessels, substance of the brain, abdominal viscera, &c., &c. Perhaps the collection of serum in

the ventricles of the brain may have been greater. I do not remember of seeing it stated before, but we found in several instances three ounces of serum in the ventricles alone, independent of what was collected between the pia and arachnoid membranes and in the cranium. The pituitary body presented no marked deviation from its normal appearance. The gall-bladder we generally found greatly distended; in one instance it measured six inches in length, six inches in circumference at the middle, and six inches and a quarter in circumference at the base (the specimen is in my possession). The effusion of serum was found in greater abundance in those that died in collapse, the distended gall bladder in those that died in the consecutive stage. The dissolved and fluid blood, as has been spoken of by writers on this subject to always or generally exist, did not hold true with us. In those that died in collapse, we found the fibrinous clot and coagulated blood to exist in the right cavities of the heart in as great a per centage as otherwise. The generative organs, both male and female, in at least two-thirds of the cases examined, were in a frightful condition from the effects of the venereal disease. The mouth of the womb universally contained a plug of mucus, and all the other viscera presented the general and usual appearance of those dying of cholera.

Prevention.—How shall we prevent the ravages of this terrible scourge? The first method we shall consider will be general—the second personal. In our large towns and cities, every species of fermentative and putrefactive matter should be removed, and its accumulation prevented. The decomposition of animal and vegetable matter, which is constantly taking place in the warm season in our cities, contributes greatly to disease, and this will continue to increase until a complete system of sewerage is effected. For example: both animal and vegetable matter is collected in the street gutters; a hydrant in an alley-way is leaking or left running water at times, more or less; the rays of a summer's sun cause its evaporation, and the noxious effluvia is constantly

disseminated in the atmosphere; such being the effects of a collection of stagnant water. All the water from hydrants and roofs of houses should pass off in sewers. This, I consider, would add greatly to our health in summer, and convenience in winter. Another great evil exists in our cities, for instance, the custom of building tenant houses. We find them with an alley-way from twenty-five to one hundred feet in length, passing in the rear. We then see buildings from four to six stories high, with low ceilings and small rooms, containing from one hundred to one thousand human beings, and no chance whatever for the circulation of fresh air,—in fact, they live in a sort of labyrinth; and, like the Pontine Marshes, seldom a stranger passes through its winding portals, but he comes out tainted with the miasm it generates. The personal preventives are cleanliness and strict attention to diet, regularity, a stated hour to eat and sleep, guarding against an excess in either; a moderate use of all things; fruits and vegetables should be proscribed, on account of their predisposition to acidity and flatulence; although, I believe, if fully arrived at maturity, and not injured by exposure to the sun, or become stale, that certain fruits and vegetables are harmless. Soups, properly made of beef or lamb, with rice or macaroni, beef steaks, tender ham, boiled eggs, corned beef with boiled rice, and macaroni, unfermented bread, crackers, or ship biscuit, is the best. The disease was evidently hastened in many that came into the hospital by eating crude vegetables and fruit, stale meats, etc.; particles of the same were found in the stomach and bowels of some after death, who had died in collapse, such as half-grown potatoes and pine-apple. As is generally the case, during the prevalence of this disease—a disordered state of the stomach and bowels, without enumerating all the premonitory symptoms—many are in the habit, as soon as a little looseness of the bowels commences, to resort to a stimulant or anodyne, although very convenient at the time, eventually proves highly injurious. I recommended and used an alterative pill, composed of mass. hydr., comp., ext. colocynth, and Ipecac., taken occasionally at bedtime.

Treatment.—The treatment pursued was the mercurial, in the fullest acceptation of the term, in all stages of the disease. It is singular, though no more singular than true, to see some practitioners administering one and two grain doses of calomel combined with opium and lead, at intervals of half, or every hour, and very likely it may reach the stomach, though doubtful,—admitting it does, the constant exhalation of rice-water that is taking place in the active stage of cholera, and in consequence, the constant emesis, what chance is there of its remaining there, even if it should be given thus combined? The more taken, in my estimation, the worse they are off; taking one set of remedies to counteract the other—the already torpid and sluggish secretions being still more paralyzed by the opium. Some are very much amazed and frightened if you tell them to give a large dose of calomel alone. "Why," they say, "you will purge your already exhausted patient to death." Now I have generally found calomel slow in its action as a cathartic; in large doses more sedative in its effects, and its cathartic action does not increase in proportion to the increase of the dose. Our main object was, if possible, to mercurialize the patient, and I have never seen one die with cholera, where this object was effected. Of the whole number treated in the hospital, there was not a death or a relapse, where ptyalism was produced; the consecutive stage of fever was easily managed, and from the effects of these "hazardous doses of calomel," as some stigmatize them, only three proved at all tedious.

The second intention was to keep the patients quiet and composed in bed, to apply mustard externally and the hot-air bath, to keep them closely covered with a woolen blanket, and to give them powdered ice *ad libitum*, and not a particle of water until reaction was fully established.

In the first stages of cholera we gave from thirty-five to forty grains of calomel, and applied a mustard sinapism over the whole chest and bowels, from the sternum to the pubes, placing the patients in bed, covering them with a blanket and

applying the hot air underneath to the extremities, (this was conveyed from an alcohol lamp through a tin tube) though not pleasant to the patient at first, soon had a soothing effect and had a greater tendency to relieve the cramps than any other means used. In fact, we would not admit of any friction whatever, believing it more injurious than otherwise. In using friction, you cannot do so without exposing the patient to currents of air, more or less; and when this constant exhalation is going on, evaporation must take place, and, in consequence, produce cold; and, not only taking this view, consider, for instance, a patient with one assistant to each limb, rubbing with might and main, what chance have they for rest and quiet? I have seen patients nearly flayed of their epidermis by friction. In a few instances, patients having always heard of and seen friction used in cholera, persisted in having it used on themselves; but we invariably found the cramps more severe. Whenever patients were admitted, they were proceeded with as described above, and given in charge of a nurse, with strict orders to keep them quiet,—the heat well applied and closely covered, not to allow them to rise up in bed or use any exertions whatever. Being kept in this position for a short time, the surface began to dry and heat return to the extremities. If they rejected the first dose of calomel it was repeated, not waiting for one hour or half hour to elapse, but in five minutes, and so on until emesis ceased, or we saw some signs of the medicine, or judged a sufficient quantity had been retained in the stomach to proceed at regular intervals with diminished doses. If a stimulant or anodyne was indicated, we used the following

℞. Chloroform.
Sol. Morph. (Majend.,)
Tinc. Camph. (Sat.,)
Syrup Simplex, aa partes æquales, (fluid meas.)
℥

Of this, a teaspoonful was given in a tablespoonful of brandy or simple syrup, as the case demanded, at intervals of half an hour, if necessary to allay irritability. This had a happy

effect, with the other means used, to assist the vomiting and quiet the irritable state of the system, and for that purpose only was it intended. In a few instances we had recourse to stimulants, independent of this, but found it necessary to use them cautiously, and watch their effects, and in using them we found great advantage in consulting the habits of patients. For instance, the German could not endure brandy —as a general custom he is used to drinking wine and beer, and the peculiarity seemed to cling to him in disease: we therefore took advantage of this, and gave the German wine and the others brandy when indicated, and found it to answer a better purpose.

We have now arrived at the stage of collapse, wherein the vital powers are completely prostrated by the disease being fully formed, the action of the heart nearly ceases, there is no pulse at the wrist, skin cold and clammy, and all the urgent symptoms present in cholera fully developed. Here action is called for at once; what, in ordinary diseases, we take hours and days to accomplish, must now be done in minutes; there is great torpor and want of excitability, blisters will not act, sinapisms do not produce their usual effect, the skin is apparently dead, internal stimulants you cannot use with safety, and the only species of medicines that can be used, are such as will stimulate and restore the secretions: this we find in calomel—its action is first alterative, then cathartic; by its altero-stimulating action it relieves the pressure, and enables the system to rally sufficiently to sustain the subsequent action of the medicine. Patients coming in during this stage of disease or verging on it, we gave 60 grains of calomel, and if they vomited very soon after, and the medicine could be detected in the vessel, we did not wait, but repeated the same quantity at once, and so on, until the third or fourth dose was administered; if they did not vomit, and the rice water dejections ceased, one dose would suffice; in connection with the means used in the first stages of the disease, we usually continued the large doses until the urgent symptoms were past, which usually did not

require more than the fourth dose, but still continued the calomel for 12, 24, or 36 hours, diminishing the dose, and increasing the interval, as the existing symptoms would seem to indicate. As has been stated before, many are fearful of purgation, from the effects of so large doses of calomel. I can say to all that are timid in this respect, with confidence, that I have never met with a case of cholera, treated as above stated, and hypercathartis ensue; on the contrary, it has frequently occurred, that patients, both in the hospital and private practice, have been seized with violent vomiting, purging, and cramps, which had, from their own statement, been kept up every ten minutes, for one, two, and three hours; after taking 60 grains of calomel, have not vomited or purged in three, six, to twelve hours after, and in two or three instances in the hospital, after waiting twelve hours, resorted to mild enema to open the lower bowels. It is not a general thing for purging to subside so soon; we have more frequently to follow up the medicine. In the first stages we have more cathartic effects from the calomel, though given in smaller doses; the vital power is not so dead to the action of remedies. Some speak highly of enemas of laudanum, anodyne suppositories, &c., &c.: we tried them in a few cases, but found it like throwing chaff against the wind; probably before or by the time we had completed the operation, it was thrown back with greater velocity than it was placed there. I believe it entirely useless to annoy the patient with any thing of the kind, in the active stage of cholera. If the disease was located in the lower bowels, it might be beneficial; but consider the great quantity of fluid collecting in the stomach and upper portion of the alimentary canal, constantly pushing down on the lower bowels and sphincter ani, and what chance, indeed, has it to remain there long enough to relieve the patient? This would be treating a symptom, not the disease. We gave several cases, in combination with the calomel, sulph. quinia, but found no benefit from it, and, by the suggestion of some of our practical friends, were induced to combine with it *tannin;* in this, as in the former, we were

disappointed, could see no advantage whatever arising from it, and, if any thing, detrimental; the irritability of the stomach was not as easily controlled as when giving the calomel alone: we had recourse to venesection in one patient, a female; she sank under the operation and died shortly after. This was the extent of our variation from the general treatment commenced at first, and even in this we did not lose sight of the calomel; we made that our sheet anchor from first to last, and had no cause for regret. Had we in our hospital building possessed the advantages of some other institutions, our per centage of cures might have been much greater; but, unavoidably, it was otherwise. As I have previously stated the dimensions of the building, it only remains for me to say that we were necessarily compelled to place the dying, the critical, and the convalescent in the same ward together, which had an unhappy effect on the patients, females more particularly. The female ward was in the attic story, which caused it to be much warmer; as at midday the rays of the sun falling directly on the roof, and although the per centage of deaths is nearly the same, it should not have been so; evidently many of the female patients at times were doing well, and there was nothing to prevent their recovery, had we been provided with a cool ward for the convalescent.

The following table exhibits the range of thermometer in the lower ward taken three times a day, commencing July 17 (the papers containing the previous dates having been mislaid or lost). The upper or female ward, when the sun was out, ranged 8 to 10 degrees warmer than the lower ward, which caused it to be much more oppressive to the patients.

We did not offer the patients any nourishment in the active stage of disease, the mere sight of it would appear disgusting to them. I believe any cause to disturb the mind or body in cholera is detrimental, and I see no earthly good to be derived from it in this stage of disease. Pounded ice, about the consistency of snow, appeared to relieve the burning heat in the stomach, so much complained of,

more than any thing used. They really considered it a luxury, when told they could have as much as they wished. Too much stress cannot be placed on keeping the patient quiet and composed in cholera; the mere turning in bed, rising up to take medicine, throwing the arms out from under the covering, flexing the limbs violently, and extending them, all predispose to cramps, and increase the irritability of the stomach and dejections from the bowels.

DATE.	8 A.M.	12 M.	8 P.M.	DATE.	8 A.M.	12 M.	8 P.M.
July 17	71	78	70	Aug. 9	72	76	70
" 18	76	83	80	" 10	70	74	68
" 19	78	87	79	" 11	72	78	70
" 20	81	93	86	" 12	74	80	72
" 21	80	92	87	" 13	78	88	76
" 22	80	87	80	" 14	76	82	73
" 23	80	88	76	" 15	74	80	70
" 24	76	80	70	" 16	73	81	72
" 25	78	82	71	" 17	74	78	73
" 26	80	88	76	" 18	70	76	68
" 27	76	80	78	" 19	73	78	70
" 28	76	82	74	" 20	72	81	69
" 29	76	79	72	" 21	76	81	72
" 30	77	84	76	" 22	76	91	75
" 31	76	82	72	" 23	72	74	69
Aug. 1	78	85	76	" 24	74	82	70
" 2	80	87	79	" 25	78	88	74
" 3	78	83	77	" 26	78	87	74
" 4	76	84	74	" 27	72	80	69
" 5	76	83	76	" 28	71	80	68
" 6	76	86	70	" 29	69	76	67
" 7	70	73	69	" 30	70	78	66
" 8	68	76	65	" 31	68	70	63

No purgative is called for: after the calomel we were in the habit of administering a mild enema to assist the bowels, if they did not move in twenty-four hours, and reaction had been fully established, and also where the effects of the mercury was showing itself on the system and reaction satisfactorily established, we gave sulphur in doses sufficient to act as a cathartic. The diet should necessarily be light in convalescence—the stomach is still very irritable, and must not be overtaxed—it should consist of arrow-root, tapioca, etc., and it should be given in small quantities at short intervals.

The sweet spirits of nitre, given in the first stages of convalescence, has a marked effect in restoring the secretions of the kidneys and healthy action of the skin. Tonics are seldom called for, except in the advanced stage of convalescence of the aged and naturally feeble constitutions.

In the consecutive stage of fever is required a judicious course of treatment. Here the judgment of the practitioner is called in question more than in the active stage of cholera. Here, as in the first stage of cholera, the same symptoms vary according to previous habits and peculiarities of the patient, and the treatment has to be adapted accordingly. Some cases terminated in confirmed typhus and were treated as such, combatting local inflammations by cupping, blisters, etc., etc. In the consecutive stage where mercury was needed, we gave mass. hyd. spts. mindereri with spts. nit. dulce., and all those that terminated in dysentery we gave the astringents, as lead, opium, and tannin, anodyne suppositories blended with the butter of cocoa, with great benefit, at the same time treating the general fever on general principles.

From the foregoing, it would be supposed that I am a strong advocate for the excessive use of mercury, and it might be inferred, in all diseases and at all times: far from it; I am opposed to its indiscriminate use, and think it injurious; but in a disease like cholera, I believe it the only medicine that will overcome and promptly subdue it.

The foregoing observations are composed, as taken from patients or those that accompanied them to the hospital, of incidents that occurred previous to their arrival, that we might arrive at facts in relation to the commencement, duration, symptoms, and previous treatment, discarding any thing equivocal, or in the shape of reports. Our object is to reveal all in our power and be correct, by stating what occurred during the epidemic in the hospital—watching by the bedside of the sick and dying, to accomplish it—the treatment pursued, the statistics as revealed, leaving the results, as compared with other institutions, to the consideration of the profession.

I cannot conclude these remarks without rendering a merited tribute to Drs. C. A. Budd and Richards, who were associated with me in the medical staff of the hospital, and who ably and zealously endorsed all my efforts,—the former rendering marked assistance in post-mortem examinations, and the latter in microscopic observations.

To the commissioners of health I beg leave to acknowledge my great obligations, for the promptness and liberality with which all my requisitions were supplied.

ART. V.—*Is Cholera invariably preceded by Premonitory Diarrhœa?* BY JOSEPH C. HUTCHISON, M. D., of Brooklyn, N. Y.

IN the last number of the *New York Journal of Medicine* there was a communication from Dr. Macloughlin, of London, in which he endeavors to prove that the six cases detailed in my Monograph on Cholera,* showing that this disease is not always preceded by diarrhœa, are not really exceptions to the rule laid down by him, "*that cholera is invariably preceded by a diarrhœa for a few hours, a few days, or a few weeks.*" He, indeed, declares that I have, by my "own showing, proved that these six cases had a premonitory diarrhœa."

Dr. Macloughlin's pamphlet,† in which the above rule was enunciated, was received by me last summer during my term of service as physician to the Brooklyn Cholera Hospital. On referring to the note-book, I found that in several cases it was recorded that premonitory diarrhœa had not existed. Previous to this time my attention had not been *very specially* directed to the question, and, as the above unconditional and unequivocal opinion of Dr. M. seemed to be based on extensive and apparently careful observations, I was induced to suspect that a more rigid inquiry into the

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* See *New York Journal of Medicine*, January, 1855.

† *Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera.*

histories of those cases might have resulted in the confirmation of his statements. The inquiry was, therefore, commenced *de novo*—certainly with no determination or even desire to arrive at conclusions different from those maintained in the pamphlet to which reference has been made, and no efforts were spared, no source of information neglected, that could be made available, to ascertain, in every subsequent case in which premonitory diarrhœa was said to have been absent, whether the statement was correct or not. The result will, I think, convince every candid inquirer, who has any faith in medical testimony, that Dr. Macloughlin's rule is not without exceptions.

I propose, in the first place, to show that Dr. Macloughlin's definition of cholera and premonitory diarrhœa differs widely from my own and from that of generally recognized authorities, and that, in reality, this difference in the use of terms employed will account in some degree for the issue between us; and, secondly, to re-produce the reports of the six cases which form the basis of my conclusions in connection with his replies to each, and to add such comments as his objections necessitate.

It is regretted that Dr. Macloughlin's answer is not free from the charge of ambiguity; and that I may not misinterpret him, which I would sincerely deprecate, I will quote freely from it, in order that the reader may decide whether the Doctor has been properly understood. The following extracts contain, I think, his definition of premonitory diarrhœa, and also, by implication, of cholera:—

"It is the time which elapses from the first liquid evacuation to the first cramps. This is called the premonitory time, and all the evacuations which occur during that time constitute the premonitory diarrhœa." * * * * * *

"Often we find that persons who are laboring under painless diarrhœa do not believe themselves ill, because they have no pain; and we find them walking about for amusement, or for business, or employed in-doors at their usual occupations, with the cold, cyanic state of the skin, and with the

cold, clammy dew of death all over their body, *the heart having ceased to beat, and the blood to circulate.* And yet these persons will say that they are quite well, that they feel as strong as ever, except, possibly they may add, that they cannot speak so loud as usual; and possibly in a few minutes after, these persons are struck down by spasms, vomiting, etc., and cease to breathe in three, four, or five hours after, to the astonishment of all who are not aware of the insidious advance of the disease."

Dr. Macloughlin's experience in the observation of cholera has been rather remarkable. It would be a phenomenon, to see persons walking about at their usual occupations, "with the cold, clammy dew of death all over their bodies, *the heart having ceased to beat, and the blood to circulate,*" and yet informing us "that they feel quite well, and as strong as ever." This statement I supposed might be a typographical error, or a *lapsus pennæ*, until I saw it repeated in a pamphlet just received from Dr. M. As he complains that my cases were not reported with sufficient care, I may be pardoned for saying, that the *minute details* of cases so unique as those above described would have been equally desirable.

From the above quotations, and others which will appear hereafter, we infer, that, according to Dr. Macloughlin, diarrhœa becomes cholera as soon as cramps are developed, and not until then—that cramps are an indispensable symptom, a constant characteristic of the disease—that, indeed, no other symptom is half so distinctive, not even the cold, cyanic state of the skin, etc. The case may have advanced so far that the heart has ceased to beat, and the blood to circulate, and still the patient is only in the premonitory stage of the disease, for *spasms* have not yet occurred.

I will not stop to quote opinions in favor of the position that spasms are not pathognomonic of cholera, although plenty of them are at hand. It is sufficient to state that the generally recognized authorities on the subject of cholera agree that cramps are merely a usual, one of the most striking, but a non-essential symptom, whose absence would

not in the least affect the diagnosis of the disease.* And I will venture the affirmation that there is no one, who has seen much of cholera (except Dr. Macloughlin), that has not witnessed cases run their whole course to a fatal termination entirely without this symptom.

As Dr. M. makes the choleraic stage commence with cramps, an opinion peculiar to himself, it is evident that the controversy into which I have been drawn is based, in some degree, on a distinction without a difference. For I understand, when an individual, (previously in perfect health, and free from diarrhœa), is suddenly attacked with vomiting and purging, attended with a degree of prostration which bears no relation to the severity of the discharges, and followed soon afterwards by collapsed countenance, a cold and blue state of the skin, etc., that he has been attacked with cholera, without premonitory diarrhœa, *whether cramps be present or not*, and the cases which I have detailed as cholera without premonitory diarrhœa, are called so in accordance with the above definition.

I proceed now to place side by side the reports of my cases,† with the objections to each presented by Dr. M.

"CASE 1.—*Admitted September 1st*, 1854. Sarah Y., aged 33, attacked with vomiting and purging a 'thin, watery fluid,' at 7 o'clock this morning, and cramps half an hour subsequently. She states that she felt perfectly well up to this time, and had no premonitory diarrhœa, which was further confirmed by the testimony of her husband. *Symptoms*—Vomiting and purging, excessive thirst, livid appearance of the face, thready pulse, skin cool and covered with a clammy perspiration, suppression of urine. Death in 27 hours."

It is objected to the above case, that as the discharges were said to have been a thin, watery fluid, and as it is not

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* *Researches on the Pathology and Treatment of the Asiatic or Algide Cholera.* By E. A. Parkes, M. D. Lond., 1847, p. 94. Dr. Budd on Cholera in *Lib. Pract. Med.* Tweedie. Am. Edit., Vol. iii., p. 101. Barnwell, *on Asiatic Cholera.* Lond., 1853, p. 57. *Report on Cholera in Paris in* 1832. By Dr. Jackson of Boston.

† See *New York Journal of Med., January*, 1855.

stated whether fæcal matter was or was not present in the evacuations, therefore the fæcal matter must have been washed away by previous evacuations, i. e., by diarrhœa.

I reply, 1. That, for the description of the character of the discharges before the admission of the patient into the hospital, we were necessitated to rely on the statement of herself and husband, and it cannot be presumed that they would examine a discharge so as to state all its peculiarities as a physician would. There probably was fæcal matter in the first discharge, but, that its general character was thin and watery, so that this peculiarity alone arrested *their* attention, there can be no reasonable doubt, nor can it be surprising. It cannot be objected that the admission, that there may have been fæcal matter in the first discharge, proves that the patient may have had a premonitory diarrhœa; for the interval between the discharges is often not greater than five minutes, and if there was fæcal matter in the first discharge, as well as a thin, watery fluid, there may have been none in that which may have occurred five minutes subsequently. And, it cannot be said that the patient had a premonitory diarrhœa for five minutes, for this "invariably precedes cholera for a few weeks, a few days, or a few hours."

2. It may be stated, in addition to the above history of this case, that it came from a house in which a number of deaths had occurred from cholera, and as the family in which this case occurred were persons of considerable intelligence, they were on the look out for premonitory diarrhœa; and it would have been remembered had it occurred, especially, when their attention was subsequently directed to it by particular inquiries.

3. This patient may have had a healthy fæcal discharge a short time before the above attack. This is by no means impossible, and if so, would there not have been almost, if not entire absence of fæcal matter in the first choleraic discharge?

"CASE 2.—*Admitted September 2d*, 1854. Sarah J. Y.,

daughter of preceding patient, aged 8 years, attacked at 1 o'clock this morning, with severe vomiting and purging. By careful inquiry of herself and father, it cannot be ascertained that premonitory diarrhœa had existed. *Symptoms*—Vomiting and purging, intense thirst, cold and cyanic state of the skin, feeble circulation, husky voice, and suppression of urine—no cramps. Death in 66 hours, from congestion of the brain."

The reply to this case is, "That the existence of a (premonitory) diarrhœa cannot be doubted." The writer has omitted to furnish a reason for this opinion. He also declares that, "as Dr. Hutchison has not told us whether he had or had not carefully watched, or caused to be carefully watched, whether the fingers or toes were or were not suddenly contracted by spasms, and as suddenly relaxed, it cannot be admitted that he is authorized to say that his patient had no *spasms*, and that, therefore, it was a case of cholera, without a premonitory diarrhœa, and without spasms."

It might, with equal propriety, have been denied that the patient was 8 years old, because it is not stated how this fact became known, whether from herself, her parents, or the records of the family bible; or that she had cholera at all; but, as it is admitted to have been a case of cholera, it is inferred that there *must* have been a premonitory diarrhœa, and, for the same reason, there *must* have been spasms, "but no care was taken to ascertain their existence." In other words, the objection amounts to this:—Cholera cannot exist without premonitory diarrhœa and cramps; therefore, as this was a case of cholera, these two symptoms must have been present, the statements of the patient, her father, and the physician to the contrary notwithstanding.

It would be interesting to know how Dr. Macloughlin was apprised that no care was taken to ascertain the existence of cramps. The fact is simply announced that the patient had no cramps, and it would seem to be a reasonable inference that care *was* taken to ascertain whether this symptom was actually present or not.

"CASE 3.—*Admitted September 2d*, 1854. Julia R., aged 22, went to bed perfectly well last night, slept soundly, and was attacked with vomiting and purging a watery fluid, and cramps in the stomach at 6 o'clock this morning. *Symptoms*—Vomiting, purging, feeble voice and circulation, lower extremities cold, blueness of the surface, and suppression of urine. When admitted, and after her recovery, she stated positively that she had no liquid discharges before the hour above-mentioned."

The same objection is urged to this as to the first case, and we have nothing to add here, in relation to the character of the discharges, to what was said of the first. The case is notable as forming an exception to the "invariable rule," even if we admit the anomalous position that no case can be called cholera until spasms commence. For here we have the evidence of the patient, elicited on the most careful and rigid examination when admitted, and again *after recovery*, that she had had no liquid discharges before the hour at which the vomiting, purging and cramps were *simultaneously* developed.

"CASE 4.—*Admitted September 3d*, 1854. Thomas O., aged 44, went to bed well last night, slept as well as usual, and was awakened at 5 this morning with an inclination to vomit and purge, which soon after commenced. Cramps were developed at 6. *Symptoms*—Vomiting and purging, intense thirst, voice whispering, skin cold, clammy, and corrugated on the fingers, cramps, partial suppression of urine. Death in 35 hours."

"CASE 5.—*Admitted September 16th*, 1854. Ellen M., aged 29, went to bed well last night, slept soundly, and arose, feeling as well as usual this morning. At 8 o'clock, violent vomiting and purging came on, and cramps at 9. On careful and minute inquiry, no evidence could be elicited that previous diarrhœa had existed. *Symptoms*—Vomiting, purging, thirst, skin cold and blue, suppression of urine. Death in 25 hours."

"CASE 6.—*Admitted September 22d*, 1854. Margarette M.,

aged 36, having felt and slept well the preceding night, was attacked with vomiting and purging at 5 yesterday morning, and cramps at 6. She was carefully interrogated when admitted, and again after her recovery, but no evidence that she had liquid discharges prior to the onset of cholera could be elicited. *Symptoms*—Vomiting and purging of rice-water fluid, thirst, feeble voice, skin cool, suppression of urine, cramps."

To the above cases we have the following reply:—

"That cases fourth, fifth, and sixth had each a premonitory diarrhœa for an hour, by Dr. Hutchison's own admission; and, further, the reports of these cases are such that they do not justify the conclusion that those individuals were in perfect health, and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging."

It will be observed that the declaration, "that each case had a premonitory diarrhœa for an hour," is based on the idea that cholera does not exist until cramps are developed. Whether the cases are reported with sufficient care to justify the conclusion that the patients were or were not free from premonitory diarrhœa, and whether it was necessary to burden my report with further details of the inquiries which led to this conclusion, I leave for the decision of others.

It is objected further:—

That, "the mere statements of patients, that they were perfectly well, that they slept well, that they ate their food as usual, is no proof that they were not laboring for a few hours, a few days, or a few weeks under diarrhœa." It is surprising that the additional "statement of the patients" was omitted, viz.: that they had no liquid discharges before the sudden development of the symptoms detailed. In commenting on all of the above cases in my report, it is stated: "The patients not only felt well, slept well, and ate as usual, but, *on the most careful inquiry, it was ascertained that nothing like a diarrhœa, no liquid discharges had preceded the severe attack.*"

I regret that Dr. Macloughlin has given cause for a suspicion of unfairness, by omitting the important portion of the sentence which I have italicised. These patients surely could have had no motive for deceiving; and if the "mere statements of patients," when carefully elicited, cannot be accepted, (especially when corroborated by their friends, as in the first and second cases), how is it possible ever to obtain a perfect history of any case?

In conclusion, Dr. Macloughlin's opinion, that cholera does not exist until cramps appear, enables him to declare that the fourth, fifth, and sixth cases had each a premonitory diarrhœa for an hour, according to my own showing, for it is recorded that *cramps* did not appear until an hour after the sudden attack of vomiting and purging. He might have made the same disposition of the first case. Admitting the correctness of his definition, there still remain two cases, to which, unfortunately, it cannot furnish a satisfactory reply; for, it will be remembered that in the second case there were no cramps, and in the third, vomiting, purging, and *cramps* occurred simultaneously. In replying to these cases, he relies on the gratuitous assertion, not directly, but by implication, that as the patients had cholera, they must have had premonitory diarrhœa and cramps.

But, if we admit the well-established fact, that cramps are a non-essential symptom of cholera, the objections to the fourth, fifth, and sixth cases are removed, and they stand as illustrations that cholera may occur without premonitory diarrhœa. The mere assertion, that "the reports of these cases are such that they do not justify the conclusion that those individuals were in perfect health and free from diarrhœa, before the moment at which they are said to have been first attacked with vomiting and purging," is worthless as an argument. The bare assertion of *novel facts*, even though it emanate from sources whose honesty and good faith we cannot doubt, will not be accepted. For the rigorous exactness to which medical science is aspiring demands that all its facts be based on the most indubitable evidence of their truth.

Whether, therefore, we admit that the choleraic stage commences with cramps or not, it has not been demonstrated that I have by my own showing proved that the six cases, published as exceptions to "the invariable rule," had a premonitory diarrhœa; and I think Dr. Macloughlin's candor will compel him to admit this to be so, although his ability to establish an invariable rule might be gratifying to himself, as well as others who rely more on his statements on this subject than their own investigations.

ART. VI.—*Bandaging with Adhesive Strips after Parturition.* By W. M. RYER, M. D., Stockton, California.

IN a case of mania following parturition, I was induced to apply strips of adhesive plaster instead of the bandage used ordinarily for the support of the abdominal walls. This application answering the indications so admirably, caused me to use the same means in several subsequent but uncomplicated cases, wherein I found similar beneficial results.

In cases where there is much looseness of the muscles and integument, constituting that peculiar flabbiness of the abdomen so often met with among women who have had several children, I have found no abdominal supporter or bandage which furnishes equally satisfactory results.

In several uterine affections, depending upon the relaxed condition of the tissues of the lower part of the abdomen, I have also witnessed remarkable benefit arising from the application of this remedy, when other abdominal supporters have failed to give relief.

The patient being in a recumbent position, I apply the bandage in strips, from one and a half to two inches wide, and of sufficient length to pass two thirds around the pelvis. Commencing above and behind the trochanter major, and passing immediately above the pubis to a corresponding point on the opposite side from the place of beginning, I usually apply these strips to within an inch of the umbilicus, closely drawn when near the pubis, and gradually re-

laxed as we approach the umbilicus. Should I desire firmness, I then apply additional strips over the others, commencing from below.

This system of bandaging the abdomen after labor is so satisfactory, and so permanent, in comparison with the cloth-bandage and other kinds used, as to induce me to bring it before the profession.

ART. VII.—*Report of a case of Hydrophobia; with Statistical Observations.** By J. LEWIS SMITH, M.D., Physician to the North-western Dispensary, New York.

ON Tuesday, March 20th, I was called to see a German, living on 64th street. Soon after my arrival, Dr. Büchler, an intelligent German, also arrived, and we examined and treated the patient together. He was a man of about 45, temperate and laborious, supporting his family by gathering old clothes through the city.

The friends told us that his health had been uniformly good till March 16th, when he began to feel a soreness and stiffness in the muscles of the right hand and forearm, and in those covering his neck. With this commencement his condition had become gradually but progressively worse, in spite of the efforts of an irregular, and at our visit the disease was so fully established, that both suspected at once its true nature.

His countenance was pallid and anxious, eyes bright, and his respiration at brief intervals short and hurried, best expressed, perhaps, without any superstitious reference, by the term panting. These paroxysms of dyspnœa began and subsided suddenly, leaving him free from pain, and calm, unless disturbed.

He talked freely, and at times in a loud voice, of his complaint, believing it rheumatic. He had not slept from the first, and though his appetite was good, the difficulty of

* Read before the Society of Statistical Medicine, New York.

swallowing had prevented his eating. Tongue moist and thinly coated; no nausea; did not complain of thirst; bowels constipated; pulse 100, full; surface of natural temperature.

There was no swelling about the throat, and pressure and percussion over the occiput and cervical vertebræ gave no pain, but the muscles on the sides and back of the neck were tender.

We gave him a bit of bread, which he chewed and swallowed, by a strong effort of the will, with difficulty. On trying him with water, the sight of the liquid, he said, increased the sensation of stiffness in his forearm, and when he attempted to bring the spoon to his mouth, his hand shook violently, and his agitation and dyspnœa were extreme. In his paroxysms he resembled one violently delirious, springing up in bed, and occasionally rushing forward to a post in the room, to which he clung till relieved.

On our asking if he had been bitten by a dog, he said that from four to seven months ago, in attempting to separate his own and another dog, he was bitten slightly on the hand by the latter. The wound healed readily, leaving little or no cicatrix. His dog was shown us apparently healthy; the other was owned in the vicinity, and was disposed of in the city soon after the bite was inflicted. What became of it is not known. His master denied that he had observed anything unusual in the animal, but some of the neighbors have since told Dr. Büchler that it acted strangely, running directly against objects, and showing unwonted moroseness and restlessness. We prescribed;—

Oleum Tiglii,
Ext. Bellad. Externally to throat.
Enemata of Beef Tea and Tr. Opii.

March 21*st*. We visited him again, and found his condition to all appearance much better. Six injections had been given, containing about ℥ii of laudanum, and he had slept a little in the morning. Only three attacks of dyspnœa had occurred since the treatment was commenced, and

he had taken about a pint of soup. He seemed revived and cheerful, and we began to doubt the accuracy of our diagnosis. He now had, however, stiffness in his left hand and forearm, that in the right continuing.

He took a little milk in our presence, but, on our proposing water, his agitation was so great that we did not urge him to take it. His aversion to water was stronger than to other liquids. Milk and soup he could swallow as easily as solid substances. The pulse was full, and varying suddenly without apparent cause. Two examinations, at a brief interval, gave 88 and 120 pulsations per minute. Treatment of throat continued—enemata to move the bowels, and afterwards of beef tea, adding laudanum at night, if no rest.

March 22d. Learned that he had died about midnight. After we left him on the 21st, he remained comfortable till about 4 P.M., when his bowels began to swell and pain him, and he could not pass his urine. His mind, for the most part calm and rational, occasionally wandered, and towards the close of life his attendant says he was, at times, furious. There was no more dyspnœa, his limbs remained warm, and his death was easy.

Autopsy 15 hours after death.—Present Drs. Büchler, Sewall, Watts and myself. Marked hypostatic congestion of surface; rigor mortis. The membranes of the brain were universally injected, and the glandulæ Pacchioni abundant and some of them unusually large. Upon the crown of the head, at the seat of these glandulæ, the arachnoid was raised by a clear serous effusion, to the amount, perhaps, of ℥ss. The cerebrum appeared natural, but the consistence of the cerebellum was diminished. In other respects, the brain and spinal cord, examined as low as the origin of the par vagum, seemed healthy.

There was nothing unusual in the appearance of the larynx, except that it contained a little mucus.

The dark gray substance so often mottling the lungs of the cadaver existed in great abundance over this organ, on

both sides, and the intestines were much distended with gas. Otherwise, the thoracic and abdominal viscera presented their usual appearance.

Since this case came under observation, most of my leisure time has been spent in collecting records of hydrophobia. From the various medical journals accessible to me, I have obtained histories, more or less complete, of about two hundred supposed cases, besides brief notices of others. In analyzing these records care has been taken to reject, from our first table, all which did not give indubitable proof of canine madness, from the known rabidity of the animal inflicting the bite, pain, or some sensation in the cicatrix at the beginning of the disease, or other equally decisive facts. Such care has been necessary, because hydrophobia may be simulated by hysteria, inflammatory disease of the throat, and perhaps other affections.

The most extensive collection of hydrophobia cases yet made, so far as I am aware, was by Dr. Hamilton, of Edinburgh, at the close of the last century; but his object seems to have been not so much to investigate the nature of the disease as to determine its period of incubation. The published records are very numerous, and the statician has an ample field in the study of this complaint; yet most that has been written on this subject is based on a very limited number of cases. We have not had access to many of the continental journals, but most of the British and American have been examined, and from them these materials have been chiefly drawn.

It is a common belief, in and out of the profession, that rabies, if once developed in man, is invariably fatal. For this reason, records of favorable cases, which, bating the result, appeared in every way genuine, have not been retained in our first collection.

In the following table, the patients were males, and bitten by dogs, unless it be otherwise stated. For the sake of brevity, hours, days, weeks, months, and years, are represented by their initials, unless it be otherwise stated:

NO.	SEX—AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF PRODROMES.	DURATION OF DISEASE.	AUTHORITY.
1	11	Upper lip	5 w.	1 d.	1 d.	Robert M. Kerrison, *Lond. Med. Repos.*, 1814.
2	34	Left leg	36 d.	12 h.	2 d.	Geo. Pinkard, " " " 1815.
3	3½	Upper lip	34 d.	12 h.	14 h.	Dr. Bellingham, " " " "
4	5	Face, head	18 d.	12 h.	2½ d.	Mr. Greening, " " " 1819
5	F. 30	Left foot	3 m.	4 d.	2 d.	" " " " " "
6	12	Right hand	128 d.	3 d.	3 d.	W. C. Dendy, " " " 1822.
7	57	Hand.—Cat	45 d.	3 d.	2 d.	W. T. Iliff, " " " 1824.
8	44	Forefinger, thumb	4 m.	No Prod.	40 h.	H. Whitmore, " " " 1825.
9	F. Adult.	Arm.—Cat	7 m.	1 w.	36 h.	*Lond. Med. & Phys. Jour.*, 1817.
10	21	Hand	11 w.	1½ d.	12 h.	J. Black, *Lond. Med. Gaz.*, Dec. 1827.
11	30	L. ring-finger, calf of leg.—Cat	9 w.	3 d.	1½ d.	Dr. Hue, " " " Mar. 1828.
12	60	Left hand	1 m.	.....	.....	F. Godrich, " " " Dec. "
13	4	Face	7 w.	1 d.	2 d.	Rec. Lond. Hosp., " " " June 1832.
14	F. 11	Right forearm	18 d.	1 d.	2 d.	F. Badgley, " " " July "
15	14	.....	3 m.	1 d.	1 d.	W. T. Cox, " " " Sept. 1833.
16	19	—Cat	101 d.	1 d.	3 d.	M. Mopinot, " " " Aug. 1835.
17	11	Leg	80 d.	2 d.	2 d.	Chas. Thornhill, " " " Sept. "
18	20	Thumb	10 w.	No Prod.	42 h.	Fred. Pritchard, " " " Feb. 1836.
19	F. 37	Left arm and ankle	7 w.	2 d.	1 d.	Wm. England, " " " April "
20	17	Right wrist	6 w.	.....	.....	T. B. Curling, " " " Aug. "
21	26	Left cheek	5 w.	36 h.	2 d.	F. C. Jones, " " " Oct. 1837.
22	12	.....	2 m.	.....	30 h.	" " " " " "
23	28	Three fingers	2 m.	1 d.	2 d.	F. Hawkins, " " " Nov. "
24	72	.....	15 m.	4 d.	2 d.	Dr. Burne, " " " Apr. 1838.
25	F. 53	Right hand	64 d.	12 h.	36 h.	J. W. Ilott, " " " Oct. "
26	13	Right hand	50 d.	No Prod.	2 d.	C. Hawkins, " " " June 1844.
27	28	.....	5 m.	6 h.	30 h.	C. Dawson, " " " 1849.
28	16	Head, back, right arm, leg	99 d.	12 d.	30 h.	" " " "
29	F. 37	Right thumb.—Cat	over 3 m.	10 to 12 d.	60 h.	T. L. Wells. " " " June 1849.
30	27	Forearm	49 d.	1 d.	3 d.	Mr. Key, *Lond. Lanc.*, Sept. 1824.
31	15	Left thumb and finger	1 m.	1 d.	2 d.	Thos. Renwick, " " May 1825.
32	23	Wrist	9½ w.	.....	4 d.	Guy's Hosp. Reports, " " Feb. 1826.

NO.	SEX & AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF PRODROMES.	DURATION OF DISEASE.	AUTHORITY.
33	Adult.	Hand	5 w.	1½ d.	36 h.	P. Gaspard, *Lond. Lanc.*, 1826.
34	17	Left hand	7 w.	.....	2 d.	Guy's Hosp. Repts., " " May 1826.
35	25	Right forefinger	9 w.	4 d.	2 d.	Dr. Latham, " " July 1826.
36	13	Cheek	56 d.	3 d.	2 d.	Henry Pout, Esq., " " June 1827.
37	22	Foot, thigh, hand	.....	Several w.	2 d.	C. Jenkins, " " July 1827.
38	16	.....	.....	2 d.	1 d.	Dr. Elliotson, " " May 1829.
39	Adult.	.....	3 m.	12 h.	36 h.	Dr. Johnstone, " " Aug. "
40	31	Foot	6 w.	3 d.	1 d.	Lane. Franc, " " " "
41	45	.....	46 d.	1 d.	1 d.	Chas. Brady, " " June "
42	56	Cheek	4 w.	12 h.	3½ d.	Hamb. Hosp., " " July "
43	53	.....	3 m.	2 d.	1 d.	W. Simpson, " " Oct. 1831.
44	15	Right little finger.—Cat	8 w.	1 d.	2 d.	Dr. Elliotson, " " " "
45	46	Hand.—Fox	6 w.	1 d.	1½ d.	Lond. Hosp., " " July "
46	Boy.	Left leg	7 m.	4 or 5 d.	1 d.	J. G. Davey, " " Febr. 1837.
47	66	.....	125 d.	.....	2 d.	Westminst. Hosp., " " March "
48	F. 23	Leg	66 d.	12 h.	1 d.	Geo. Tucker, " " May "
49	F. 26	Upper lip	.....	112 d.	2 d.	Mr. Hutchison, " " Dec. 1838.
50	31	.....	56 d.	1 d.	2 d.	H. Bateman, " " Febr. 1844.
51	8	Upper eyelid	59 d.	1 d.	2 d.	H. H. Walton, " " May "
52	12	Right ankle	1 y.	2 d.	1 d.	Robert Allan, " " Sept. 1847.
53	5	Face	6 w.	7 d.	1 d.	George Fife, " " March 1849.
54	6½	Left eyebrow	37 d.	.....	3 d.	R. Grinrod, *Med. Chir. Rev.*, July, 1834.
55	47	Left hand.—Cat	5 w.	2 d.	2 d.	J. F. Pettigrew, " " " Jany. 1835.
56	Adult.	Hand	7 to 8 w.	2 d.	1 d.	" " " " " " " "
57	70	Right eyebrow	5 w.	No Prod.	3 d.	W. Jackson, *Prov. Med. & Sur. Jo.*, Dec. 1842.
58	8	Left eyebrow	10 w.	" "	3 d.	" " " " " " " "
59	4	Two fingers	158 d.	1 d.	1 d.	E. Parker, " " " " " 1843.
60	18	Left wrist	4 m.	.....	59 h.	H. Jackson, " " " " Nov. 1844.
61	48	Right forefinger	6 w.	½ d.	3 d.	J. Aikenhead, " " " " Sept. 1845.
62	5	Under lip	27 d.	Few h.	2 d.	S. B. Denton, " " " " " 1849.
63	42	Left finger	6 m.	6 h.	36 h.	Dr. Sandwith, " " " " " 1850.
64	3½	Face, nose	22 d.	2 d.	36 h.	Repts. Cumberland Inf., " " " "

65	F. 7	Eyelid	19 d.	½ d.	2 d.	*Med. Times*, Dec. 11, 1841.
66	7½	Arms, leg, face	47 d.	Few d.	2 d.	W. H. Booth, " " Feb. 1843.
67	F. 9½	Calf of leg	13 w.	18 h.	40 h.	W. H. King, " " Nov. 4, 1843.
68	11	Left little finger	20 d.	3 d.	29 h.	W. Foley, *Med. Times*, May 25, 1844.
69	F. 13	Face	4 w.	.....	.....	Dr. Hooper, " " May 17, 1845.
70	Adult.	.....	9 w.	Few h.	4 d.	Balt. Free Press, " " May 6, 1848.
71	19	Left leg	5 or 6 y.	2 d.	.....	Dr. Hughes, *Med. Times & Gaz.*, May 27, 1854.
72	18	.....	11 m.	2 d.	12 h.	Dr. Brandreth, *Edin. Jour.*, Jan., 1825.
73	Adult.	Both wrists	267 d.	.....	2 d.	" " " " " "
74	15	Right arm	32 d.	2 d.	3 d.	J. A. Sidey, *Month. Jour. Edin.*, Dec. 1850.
75	8½	Right eyebrow	31 d.	Few h.	2 d.	Jas. Struthers, " " " Jan. 1851.
76	F. 20	Face, back	98 d.	12 h.	2 d.	Prof. Lawrie, Jr. " " " Sept. 1852.
77	Adult.	Right hand.—Wolf	5 w.	1 d.	2 d.	B. Gaspard, *Rev. Med.*, March, 1824.
78	24	Arms, legs.—Wolf	41 d.	Few h.	9 d.	Prof. Recamier, " " Aug., 1824.
79	48	Finger.—Wolf	32 d.	2 d.	2½ d.	M. Lepine, " " " "
80	F. 52	.....	5 m.	6 h.	2 d.	Dr. Godelle, " " Sept., 1831.
81	Adult.	.....	4 w.	.....	.....	Prof. Dieffenbach, *Rusts' Report.*
82	F. 10	Right arm	174 d.	.....	2 d.	Dr. Fuchs, " " 1829.
83	15	Hand.—Cat	44 d.	.....	2 d.	" " " " "
84	40	—Cat	10 m.	6 d.	1 to 2 d.	Dr. Mayer, *Hufeland's Journal.*
85	14	.....	31 d.	1 d.	2 d.	Dr. Marshall, *Tract on Hydroph.*
86	45	Scrotum	42 d.	3 d.	40 h.	H. Oldknow, *Edin. Med. & Surg. Jour.*, 1809.
87	52	Left hand	17 d.	36 h.	30 h.	M. Labonardiere, *Bibleoth. Med.*, Aug., 1821.
88	5½	Left eye	3 w.	.....	.....	*Jour. de Phys.*, 1822.
89	14	.....	45 d.	5 or 6 d.	1½ d.	M. Cassan, *Arch. General.* 1825.
90	F. Adult.	Leg	201 d.	5 d.	3 d.	Dr. Urbane, *Bib. Prac. Heil.* 1827.
91	28	Right thumb	6 w.	3 d.	1 d.	Dr. Consture, *Jour. Hefd.* 1829.
92	10	Upper lip	27 d.	.....	.....	Dr. Richiedei, *Lassana in Gaz. Med.* 1852.
93	Boy.	Hand	.....	Few h.	24 h.	Abernethy, *Lecture on Hydroph.*
94	55	Middle finger	97 d.	24 h.	40 h.	Dr. Chairetes, *Dub. Med. Press.*, Sept. 7, 1853.
95	Adult.	Right hand.—Fox	6 w.	Few h.	36 h.	Dr. Howman, *Phil. Trans.* Vol. iii.
96	"	Right hand	10 w.	2 d.	4 d.	Dr. Watson, *Lecture on Hydroph.*
97	F. 15	Face	28 d.	.....	15 h.	Dr. Marochetti, *Art. Hydroph.*
98	F. 40	Face, forearm, thigh.—Wolf	26 d.	.....	4 d.	M. Ferrus, *Trans. of Royale Acad., Paris.*
99	F. 70	—Wolf	3½ m.	.....	.....	" " " " "

NO.	SEX—AGE.	PART INJURED—ANIMAL.	INCUBATION.	DURATION OF PRODROMES.	DISEASES.	AUTHORITY.
100	15	Face.—Wolf	13 d.	.....	4 d.	M. Ferrus, *Trans. of Royale Acad., Paris.*
101	65	—Wolf	2 m.	.....	.....	" " " " "
102	Adult.	Left hand	6 to 8 w.	.....	2 d.	Dr. Bright, *Recd. of Cases.*
103	52	Upper lip	5 w.	No Prod.	48 h.	Dr. Bright, *Rec. of Cases.*
104	Adult.	.....	4 m.	" "	48 h.	" " " "
105	"	Hand	3 m.	Few h.	57 h.	" " " "
106	17	Right middle finger	1 m.	Several d.	1 to 2 d.	Prof. Plumer, *Ed. Med. Ess.* Vol. V., 1777.
107	Adult.	Fingers	31 d.	No Prod.	24 h.	Dr. Middledorff, *Gunsburg's Zeitsch.*, Aug. '52
108	6	Face	10 d.	1 d.	2 d.	Dr. A. King, *N. Y. Med. Repos.*, Vol. 1.
109	43	Ear	4 w.	1½ d.	2 d.	Conn. Cour., " " " "
110	16	Foot	5 w.	12 h.	1½ d.	Dr. P. S. Physic, " " " 2.
111	13	Forearm	84 d.	Several d.	3 d.	Dr. S. Borrowe, " " "
112	13	Ang. of eye	101 d.	36 h.	3½ d.	Dr. J. R. B. Rodgers, " "
113	11	Finger	12 m.	12 h.	20 h.	Dr. J. R. Coxe, " " "
114	11	Left thumb.—Raccoon	42 d.	1 d.	3 d.	Dr. Geo. Russel, *New Eng. Jour.*, 1823.
115	7	Eyelid, lip	30 d.	30 h.	2½ d.	G. Hayward, M.D., *Bost. M. & S. J.*, Jan. '54.
116	15	Leg, ear	28 d.	1 d.	2 d.	Chas. D. Homans, M.D., " Mar. '54.
117	Adult.	Hand	57 d.	1½ d.	36 h.	J. H. Fogg, M.D., " Apr. '54.
118	8	.....	1 y.	2 or 3 d.	2 d.	Thos. W. Blatchford, M.D., " July '54.
119	28	Hand	6 w.	Few h.	4 d.	Jas. Thorne, M.D., " " "
120	12	.....	46 d.	2 d.	7 d.	Dr. Hartshorn, *Amer. Jour.*, October, 1848.
121	30	Hand	1 to 2 m.	1 d.	2 d.	Dr. S. Jackson, " " " 1849.
122	18	Right wrist	98 d.	3 d.	1 d.	Dr. Curtis, " " " "
123	7	Left little finger	3 w.	12 d.	12 d.	Dr. Coale, " " Jan., 1849.
124	40	Finger	3 w.	.....	2 d.	Dr. Barton, *Phil Med. & Phys. Jour.*, 1820.
125	23	Finger	21 d.	1 d.	4 d.	Dr. Herron, *Western Jour. of Med.*, 1836.
126	Adult.	Left hand	44 d.	4 d.	3 d.	Dr. Thos. W. Blatchford, *Annalist*, Dec. '47.
127	3	Arm	Several m.	54 h.	54 h.	Dr. Dickson, *South. Jour. of Med.*, May, '47.
128	18	Right forearm	68 d.	1 d.	14 h.	Dr. A. H. Brown, *Ohio Med. & Sur. Jour.*, '48.
129	6	Thirty-one wounds	73 d.	.....	4 or 5 d.	Dr. Thacher, *Treatise on Hydroph.*
130	73	Finger	90 d.	4 d.	3 d.	" " " "
131	F. Adult.	Hand.—Cat	45 d.	3½ d.	2½ d.	Drs. Brewster & Childs, "

Nine of the patients in the above table were 5 years old, or under, fourteen from 5 to 10, inclusive of the latter age, thirty-nine from 10 to 20, inclusive, twenty-five from 20 to 40, seventeen from 40 to 60, and five over 60. The relative frequency of hydrophobia in the different periods seems to correspond closely with the degree of activity and exposure. Again, the fact that infancy is not exempt, shows the fallacy of the doctrine which imputes the disease entirely to fear.

Only eighteen of the number were females. So great a disproportion of the sexes is, perhaps, due to a difference of occupation; a disproportion noticed also in tetanus, a complaint, in many respects, so similar.

The records enable us to give the months when 102 patients were bitten, and 107 became hydrophobic, as follows:

	Bitten.	Hydroph.		Bitten.	Hydroph.
January	5	10	August	13	6
February	7	6	September	13	10
March	5	7	October	10	11
April	8	5	November	6	18
May	9	9	December	9	4
June	11	11			
July	9	10		102	107

This table shows how little the disease, both in man and in animals, is dependent on the state of the atmosphere; and yet in some countries rabies is most prevalent at particular seasons. In certain provinces of France, and in Northern Europe, cases are most numerous in cold weather, the disease being communicated by wolves made rabid, it is thought, by hunger.

Of the cases occurring in the United States, 4 were bitten in winter, 3 in spring, 5 in summer, and 5 in autumn; 3 became hydrophobic in winter, 4 in spring, 2 in summer, and 9 in autumn. It follows that if there be any sanitary regulation for the prevention of hydrophobia, it should be in force the whole year.

The period of incubation, reckoned from the time of the bite till the commencement of preliminary symptoms, was as follows:

Cases.			Cases.		
In	1	10 days.	In	13 from	5 to 6 w.
"	1	13 "	"	19 "	6 to 8 w.
"	1	17 "	"	13 "	8 to 10 w.
"	2	18 "	"	15 "	10 to 14 w.
"	1	19 "	"	14 "	14 w. to 6 m.
"	1	20 "	"	9 "	6 m. to 12 m.
"	4	3 w.	"	1 "	15 m.
"	10 from	3 to 4 w.	"	1 "	5 to 6 y.
"	18 "	4 to 5 w.			

There might be some doubt about the genuineness of this last case, but the patient, besides presenting the ordinary symptoms, and post mortem appearances, complained of pain in the bitten part.

The condition of the wound, at the time hydrophobia appeared, is recorded in eighty-one cases, in seventy-five of which it had cicatrized. In the other six, the wounds were healthy, and progressively healing—in two, having nearly closed. One of these (No. 78), was remarkable for the long duration of the disease—nine days. In this case, a free suppuration commenced on the fourth day, with a marked mitigation of the symptoms. In another (No. 108), the suppuration ceased, and the wound became dry, when the hydrophobic symptoms began. In no case was there a free discharge from the bitten part, if these symptoms were severe. These facts teach us a useful lesson in reference to the treatment.

In twenty-one cases, the appearance of the cicatrix is given, in six of which, it had a reddish color, or bluish, with red around. In two others, there was an inflammatory, and in two more, a raised appearance. Of the remaining eleven, one showed a loose attachment of the cuticle; one, a point of ecchymosis; another, an unusually dark hue, and eight bore a natural aspect. Probably, in the majority of cases, there was no visible change in the scar, else the records would not have been so silent on this point. Nor, with a single exception, do I find any change recorded in the superficial appearance of parts adjacent to the cicatrix. This exception occurred in Mr. Abernethy's practice, who noticed two red lines extending up the arm, apparently in-

flamed absorbents. I call attention more particularly to this point, because the bitten limb is often the seat of pain, as we shall see; and it is an open question whether this pain follows the course of the nerves, or absorbents.

It has been held by some, that hydrophobia may be communicated by a bite, though the cuticle remain entire. The records give only one instance (No. 96,) of a simple indentation; and when we recollect how easily a slight breach might escape detection, we may well doubt whether an inoculation ever occurs through the sound skin.

In this connection we may as well state that, with two exceptions (Nos. 49 and 109), the disease was in every instance communicated by a bite. In one of these exceptional cases the rabid animal leaped so furiously against the mouth of its mistress as to loosen a tooth. In the other the dog was allowed, the day before it became rabid, to lick a sore in the ear. Hydrophobia, after an incubation of four weeks, began in this patient by a pricking pain in that organ.

Of the animals producing the wounds, four were wolves, ten cats, one a fox, one a raccoon, and the rest dogs. All the wolves were probably rabid at the time of inflicting the injury, their exact history not being known, from the difficulty of observing wild beasts for any length of time. One of them proved its rabidity by communicating the disease to four individuals.

Of the cats, one showed no signs of rabies; another, though apparently well, had been bitten by a rabid dog; two were already mad, and another, sick at the time, became so afterwards.

The raccoon was in a wild state and killed. The fox was tame, and being teased in its cage. It appeared in good health, but, a few days after, died in such a way as to excite the suspicion of its having been poisoned.

Thirty-nine, at least, of the dogs were in confirmed rabies when the wounds were produced. One of these was a lap-dog in a neighborhood where a rabid animal had not been known for years. This dog also bit a puppy, which went

mad and died. An instance more conclusive of the spontaneous occurrence of rabies can scarcely be found, and yet Mr. Youatt denies that this ever takes place.

Fifteen other dogs, whose history was known, seemed well at the time of inflicting the bites. Of these, one soon after wandered from home, and another at an interval of two weeks. Six were immediately killed or disposed of, two of which had been bitten by rabid animals, and the other four were made furious by teasing. The seven remaining of the fifteen went mad within ten days.

Six other dogs acted suspiciously, giving evidence of some disease, the nature of which was not apparent. They were probably in incipient hydrophobia, and two afterwards ran mad. The other four left home, or were killed, so that the nature of their complaint was not known.

The history of the remaining dogs, in the collection, was unknown, or not recorded; but five of them appeared to be acting solely in self-defense.

From these records it appears that animals, before showing any symptoms of hydrophobia, may communicate the disease; and, from the fact that so large a number were being teased, the question may arise whether provoking the animal may not render the poison more energetic and increase the danger of infection.

A fact of considerable practical importance, brought to light by the records, is, that in many instances there was some exciting cause of the disease. One patient appeared to bring it on by exposure to wet, and another by eating fish having a strong odor. He continued talking of this food through his sickness, and just before his death vomited a portion of it. Four were taken with the complaint immediately after drunken revels. In one instance, witnessing the execution of a murderer; in another, a fall; in another (a child), fright, from seeing some one playing the ghost, ushered in the fatal disease. Again, a patient struck his foot against a nail with such force that he nearly fainted. Immediately the precursory pain arose in the bitten limb.

We see, here, the necessity of a person in danger of hydrophobia leading a regular and quiet life, avoiding all excesses, every source of anxiety or alarm. By such precautions many might, perhaps, be saved, who fall victims. There is some truth in the doctrine, that rabies is a peculiar nervous complaint, engendered by fear, for fear may often be the exciting cause.

(*To be continued.*)

ART. VIII.—*Report of a Case of Scarlatina, followed by Erysipelas; with Remarks.* By WILLIAM G. MEACHEM, M.D., of Wyoming County, N. Y.

DURING the last eight or ten weeks, I have had in my professional charge a female patient, who was originally severely attacked by scarlatina maligna; but for the latter and much greater portion of that time, has been struggling with diffuse inflammation of the subcutaneous areolar tissue. In doubt whether this erysipelatous affection simply supervened upon the scarlet fever, or is an unequivocal sequela of it, I have concluded to forward the particulars with a request that, if deemed advisable, they be given publicity through the columns of the Journal, in order, perchance, to elicit the experiences and sentiments of some of its readers corroborative of one or the other of these opinions.

The history of the case is briefly this:—Upon the 11th of May last, I visited for the first time Miss S. W., aged——I found her laboring under the malignant type of scarlatina. Intense fever, indicated by strength, frequency and quickness of pulse, immoderate thirst and excessive heat of skin, the characteristic angina, and the diagnostic purplish patches of efflorescence, were prominently conspicuous. An active cathartic, lotions for the integument, etc., were prescribed. At a subsequent visit, through fear, by reason of the vehemence of the head-symptoms, of the occurrence of cerebral meningitis or cerebritis, she was freely bled. The prostrating violence of the poison soon fearfully manifested itself in a small, weak, quick pulse, delirium, greatly reduced

muscular power, etc. The exanthem disappeared in about the usual time; but the ulceration of the fauces and pharynx continued for many weeks. A few days after phlebotomy had been performed, I discovered that the ulcerative process had been instituted in the edges of the incision in the integument and subcutaneous areolar tissue. The ulcer gradually spread in circumference, until its area was equal to that of a double eagle, or greater. At this point it remained stationary for a week or more; and then, under the persistent application of the tincture of myrrh, *pari passu*, diminished in extent until finally, after a protracted continuance of eight or more weeks, it entirely disappeared. Shortly after my discovery of the ulcer on the bend of the elbow, I observed an abscess upon the external border of the opposite forearm: this was punctured and several ounces of pus were discharged. Almost simultaneously with this, another abscess was seen upon the belly of the biceps flexor cubiti of the arm in which the patient had been bled. The contents of this were evacuated spontaneously through the orifice of venesection. At intervals of a few days other abscesses successively arose upon the occiput, the infra-spinous fossa of the left scapula, in the left axillary region of the thorax, upon the internal surface of the left arm, the epigastrium, the sacrum, underneath the inferior maxilla, upon the external aspect of each hip-joint, etc., some of which, upon being lanced, poured fourth 16 or 20 ounces of a fetid, sanious pus. In a portion of these instances of abscess, location seemed to have a predisposing agency, those parts of the body upon which its weight occasioned pressure being, *certeris paribus*, more obnoxious to suppuration than others: those of the scapula, sacrum and hips are examples.]

In passing, let me here remark, that these abscesses very distinctly exhibited to the sense of touch the characteristic *bogginess* or *quagginess* of abscesses resulting from diffuse areolar inflammation. Moreover, during the activity of the local inflammatory action preceding the formation of the abscesses upon the hips, the pain experienced in those parts was intole-

rably severe; a phenomenon, doubtless, explicable, by supposing the inflammation to have been seated, partially at least, beneath the fascia lata, which, by its compressing influence upon the congested and distended blood-vessels, occasioned that excess of suffering characteristic of inflammation underneath dense fibrous structures. Irritative fever, as indicated by a frequent pulse (ranging from 110 to 140), great debility, restlessness and anxiety, depression of spirits, etc., was also plainly discernible.

As might reasonably be anticipated, so profuse and continued a suppurative discharge excessively reduced my patient; so much so, in truth, that for a long time, in spite of nutritious diet, wine and bark, the scales of life and death fearfully oscillated, and even now the incertitude is scarcely less. In addition to the exhausting purulent discharge from the superficial areolar tissue, vast quantities of pus, often specked and streaked with blood, were expectorated. This doubtless, in part proceeded from the ulcerating surface of the throat, but its excessive amount would seem to have involved the existence of a vomica or an hepatic abscess, seeking an outlet through the channel of the air passages. Indeed, my apprehensions for the safety of my patient have, at times, been considerably intensified by observing now and then temporary symptoms of hectic; their transient continuance, however, emboldens me to hope against hope.

Remarks. This relationship of incidents suggests to the investigating medical mind, several queries.

1st. Was this erysipelatous inflammation a true sequela of the scarlatina?

Or, 2dly, was it excited by the venesection?

3dly. Is there any similarity between the respective poisons of scarlatina and erysipelas, or can one be metamorphosed into the other?

Before venturing upon a rejoinder to either of these interrogatories, let me premise, for the satisfaction of those who may be inclined to regard these abscesses of the superficial fascia as the results of simple inflammation, or I should rather

say, of what may be named *scarlatinous* inflammation, be it simple or specific, that no author, so far as my reading extends, makes the slightest allusion to any such idea. Moreover, does not the diffusive nature of the phlegmasia forever interdict such a belief?

In reply to the first of these interrogatories, I will say that, although cases precisely similar to the one just rehearsed, are not recorded by any of those European and American authorities which I have had an opportunity of examining yet several writers concur in enumerating, among the sequelæ of scarlatina, abscesses of the testis, the joints, the ear, in the vicinity of the parotid and submaxillary glands, etc.

Now, though many of these are, in all probability, *simple* abscesses, still, it must be remembered, it is equally probable that as many are of erysipelatous origin, especially such as are found in the glandular structures, which are lined by prolongations of mucous membrane, the testis, for example; for it is well known that erysipelatous inflammation frequently seizes upon mucous membrane, which is in reality but an extension of the tegumentary tissue. Nor, indeed, do I see anything to forbid the reference of every variety of these abscesses to the same peculiar phlegmasia, as a cause, for we are authorized in believing that erysipelas may invade most, if not all, of the tissues of the body.

Though the erysipelatous character of the areolar inflammation, in the case of my patient, and the supposition of the existence of the same nature in the inflammatory action preceding the formation of the abscesses, referred to by authors, *would seem* to preclude the possibility of their being sequelæ of scarlatina, still, with the aid of a little theorizing, this possibility can easily be established.

To substantiate the doctrine embodied in the affirmative reply to this query, it becomes necessary to prove the possibility of the generation of the peculiar poison of erysipelas in the bodies of those affected with scarlatina, as an unequivocal consequence of the last-named disease, either by revealing it as the virus of scarlet fever, more or less modified in

character, or as produced by the chemical action of the same virus upon the material particles of the body or its secretions, or as resulting from the pus which, in many cases, is so abundantly formed in the throat, or in a combination of two or more of these agencies.

Although the proof of the convertibility of the virus of scarlatina into that of erysipelas would, in the existing state of our knowledge, be to him who should attempt it as the distruction of the Nemean lion was to all, in its far-distant time, save Hercules, an impossibility, still I regard the theory which asserts that convertibility as a very plausible one, and, moreover, one which future science will declare to be tenable in part, at least, if not in its entirety.

A few facts may here be named which, though they do not directly serve as convincing demonstration, yet have a sensible inclination toward the reality of the hypothesis, which declares the possibility of the generation of the erysipelatous poison through the agency of scarlatina.

Firstly.—It is an observed truth, that scarlatina and erysipelas not unfrequently rage contemporaneously in the same locality, in corroboration of which, I may cite an instance within my own cognizance. The two diseases have been in synchronous activity in my own vicinage the past spring.

Secondly.—The two diseases are members of the same nosological order of Cullen, the exanthemata, a place justly assigned them from a thorough conviction of the similarity of their phenomena, and we may thence fairly infer, of the essential natures of their poisons, to some extent, as well. I would not be understood as here asserting, that I regard the various poisons of scarlatina, variola, rubeola, erysipelas, the plague, etc., as identical, or even necessarily similar, in intimate composition, but, simply, that they all possess a sufficient degree of resemblance in property to justify the appellation of "congeners," as embodied in the grouping together of these several pyrexiæ. Let us call to mind the old axiom—"Like causes produce like effects."

And, *Thirdly.*—These two eruptive fevers imitate each

other much more closely, even in the minor stages of their progress, than any other two of the same order. The greater disposition to the formation of abscesses and to ulceration in these than in the other exanthemata, may be named in this connection, though, it is true, the one manifests a preference for the throat, ear, testes, joints, etc., the other, for the integument, subcutaneous areolar tissue, mucous membranes, etc. The efflorescences in the two varieties of disease, moreover, possess some characteristics in common, particularly the simplex type of the one, and the erythematous of the other; and I do not hesitate to believe that, as the exanthem of erysipelas evidences inflammation, so also does that of scarlatina, although upon the tegumentary surface, of a greatly-modified form. It is also a recorded fact, that sore-throat is as often an accompaniment of erysipelas as of scarlatina, though it by no means terminates in ulceration so often in the former as in the latter disease.

May not the supervention of diffuse inflammation of the superficial fascia upon cynanche maligna, in the case of my patient, be confirmatory of this theory?

Let me be clearly understood. The idea that I wish to convey is this, and this alone:—That it may be possible that the virus of scarlatina may generate in the human system the virus of erysipelas, or, at least, that the changes, organic, chemical, and physical, accomplished in the body of a patient suffering from scarlet fever, may occasionally produce, *de novo*, the virus of the "rose."

Let me now consider the second query—Was the erysipelas of my patient excited by the venesection?

It is, indeed, true, that phlebotomy not seldom occasions the induction of erysipelatous inflammation, and sometimes the variety known as diffuse areolar inflammation; and it is by no means impossible that, in the instance I am now reporting, we have an exemplification of this latter truth, since, as I have before said, erysipelas was prevailing to some extent in my neighborhood simultaneously with the epidemic of scarlatina. Although this reference of the

cause, in this particular instance, is the one which modern science would approve and demand, still I see nothing to militate against a justification of my advancing this as a case in corroboration of the theory just propounded, especially since it harmonizes so well in every particular with the details of that theory.

Since an especial consideration of the third query would be substantially but a repetition of much that has already been suggested in this communication, I therefore desist from it.

It may be objected by the opposers of this hypothesis, that the contemporaneous or successive occurrence, in the same locality, of epidemics, of scarlet fever, and St. Anthony's fire, are mere coincidences; or, at most, that the one is superinduced upon the other simply by virtue of the greater susceptibility of the system during, or immediately after, an attack of one to an invasion of the other: this susceptibility being the legitimate consequence of diminished vigor of system.

Admitting that the existing or previous siege of one of the exanthemata may predispose the physical organism, by reason of its debilitating influence, to an attack from another of that order, a difficulty still remains unsurmounted, in the way of the convincing efficacy of this objection. It is this:—No other two exanthemata occur synchronously, in a given district of country, with a frequency at all comparable to that noticed in the occurrence of scarlatina and erysipelas.

May it not be, let me repeat, that the absorption of the putrid pus, which, in the anginose and malignant varieties of scarlet fever, is often so profusely secreted, sometimes institutes erysipelatous inflammation? Analogy strongly fortifies the affirmation of this query. Who does not know that erysipelas may be induced by the suppression of an habitual evacuation, as the purulent discharge from an old ulcer, probably in consequence of the resulting contamination of the blood? Who is ignorant that one of the septic poisons, generated in the bodies of those attacked by various diseases, and particularly inflammations of the serous membranes,

puerperal fever, etc., will cause, by inoculation, the severest form of diffuse areolar inflammation? Now, is it at all improbable that poisonous material may be generated in the systems of scarlatina patients, at least of those afflicted with cynanche maligna, very similar to, or identical with, this septic animal poison of the living being or of the cadaver?

May not this have been the case with my patient? May not the putrid pus from the throat, or the degenerated natural secretions of the body, or, even the scarlatina virus itself, modified in its passage through the physical structure, have produced the erysipelas? I feel assured that the first two are adequate causes, and I shall esteem the theory which ascribes equal competency to the last, or, in other words, the opinion that the poison of scarlet fever may, in certain combinations of circumstances, be transformed, in the human body, into the virus of *ignis sacer*, as far from visionary or unfounded.

The chemical composition of these two animal poisons being, as yet, involved in mystery impenetrable by the scientific eye, the difficulty of substantiating this theory is, by consequence, greatly augmented; but I dare to hope, although I may not live to witness the realization of that hope, that future science and accumulated observation will combine to place this hypothesis among the indisputable truths of pathology. In the brilliancy of the light of a coming century, who shall say what may not be revealed?

ART. IX.—*Elkoplasty applied to the Treatment of an Intractable Callous Ulcer of the Leg.* By FRED'K D. LENTE, M. D., Surgeon to the West Point Foundry, N. Y.

TIMOTHY MAHONEY, æt. 68, no particular occupation, applied to me some three months ago with an ulcer about the size of a dime, situated at the middle of the outer aspect of the leg, of which he gave the following history:—That it commenced as a small, hard wart about a year ago, which sometimes pained him a little; this increased slowly in size for a time,

and finally ulcerated on the top, having then a flattened appearance. It now began to give him a good deal of pain, the pain being of a gnawing, lancinating character. At the time of his application to me, the ulcer was of the size abovementioned, somewhat elevated above the skin, very hard and callous, with an indolent, granulated looking surface, with no inflammation about the ulcer or the surrounding integument. The pain he described as coming on generally at night, and being so severe as to prevent him from sleeping. General health good, and has always been so. Is capable of making a good deal of physical exertion, notwithstanding his age. I directed him an anodyne mercurial ointment, and he continued to use this for some time with but little benefit; the pain all the time increasing. I then commenced the application of the acid nitrate of mercury freely to the ulcer, and a little beyond it. This has been kept up at intervals for the last two months, with no permanent benefit, but always with relief to the severe lancinating pain. The ulcer has been more than once completely destroyed to below the surface of the surrounding integument, and has at times almost healed over, but it invariably resumes its former appearance. Patient was not subjected to any internal treatment, as there appeared to be no constitutional taint, and the ulcer to be confined solely to the integument.

To-day, February 27th, 1855, as further medical treatment appears not likely to result in any permanent good, I resolved to remove it with the knife, and, having subjected the patient to the full anæsthetic influence of sulphuric ether, proceeded to do so in the following manner:—A square piece of integument, including the ulcer, and extending a little beyond it on all sides, was removed, leaving the aponeurosis covering the muscles beneath apparently perfectly healthy. The upper and lower incisions were then prolonged both ways, the flaps, thus marked out on either side, partially dissected up, and their edges then approximated by the stretching and gliding process, and secured by sutures; the lines of incision above and below were then secured by fine

sutures; about twenty in all were used. The dressing was completed by adhesive strips, a compress and roller.

March 1st.—To-day, removed the dressings carefully. Some oozing of venous blood, but the wound looks well; removed five or six sutures.

March 20th.—The complete healing of the wound has, up to this time, been retarded by sloughing of a corner of one of the flaps, but the cicatrization is now perfect, and the scar will be trifling.

ART. X.—*On the Use of Liquid Caoutchouc.* By J. B. D. STILLMAN, M. D., Physician to Demilt Dispensary, N. Y.

THE utility of collodion, as an impermeable plaster in various cutaneous affections, is very generally acknowledged. It has, however, some disadvantages in certain cases, arising from its inelasticity, which makes its extensive application inconvenient, or inadmissible. In such cases, thin laminæ of *gutta percha*, oil silk, or adhesive plaster, are generally used. About a year since, I was presented by Mr. S. T. Armstrong with a bottle of the milk of the *Hevea* or Caoutchouc, in the liquid form in which it exudes from the tree. It is preserved in that state by the addition of a small proportion of free ammonia, and is now introduced as an article of commerce for manufacturing purposes, and, from my experience with it, I am impelled to call the attention of the profession to it, as a most useful contribution to our *materia medica*. It is of the color and consistency of pure milk, (if my recollections do not deceive me), but becomes transparent as soon as dry. Owing to its great elasticity, it does not contract so violently as the collodion, it adheres closely to the skin, and allows entire freedom of motion and application to any extent. In burns it has an advantage over any thing I have ever used, as also in erysipelas. An acquaintance with it by surgeons will lead, I do not doubt, to many valuable improvements in surgical appliances.

ART. XI.—*Veratrum Viride.* By SAMUEL GRISSON, M. D., Ann Arbor, Mich.

THE attention of the medical profession has lately been attracted to the great virtues said to be possessed by the American Hellebore (Veratrum Viride). Important results are claimed, from its careful and prompt exhibition, by Dr. Norwood, who has recommended the use of this medicinal agent so highly, and, as some may think, with too sanguine hopes of its almost specific use in several diseases. Whether the expectations which Dr. Norwood seems to have of this plant will all be realized, is a matter which time and the experience of medical practitioners must eventually determine, and it is for this purpose that every one who has used this powerful agent should give the medical public the benefit of his observation. I have used the veratrum viride in only two cases. The first was a case of typhoid fever, so called, although the enteric symptoms were almost entirely absent. This case had progressed unfavorably, when it came into my hands, and the hopes of a successful termination were very limited at that time. The exhibition of the veratrum appeared to exert no appreciable effect on the disease, nor did it seem to diminish the number of pulsations at the wrist. The second case was that of a severe attack of pleurisy, in a lady twenty-six years of age. After complaining for several days of feeling not as well as usual, and after one day's exposure to the damp and cold air, she was seized in the evening with chills and fever, with very severe lancinating pain in the left side, which caused her to scream every time she breathed or coughed. Her pulse was full and hard, and beat 120. She was bled ℥ xiv., which had the effect of stopping the pain in her left side almost immediately and entirely. The blood had the buffed and cupped appearance as much as, or even more than, I had ever seen it before. The patient appeared to be gratified with the effect of the bleeding; but the severe lancinating pain returning in about three hours, and this time in the right side, more blood, to the amount of ℥ v., was abstracted, when syncope was nearly induced.

Pain was somewhat diminished, but by no means entirely removed. The blood, however, showed no more buffy or cupped appearance. Pulse still 120, without any more hardness. Ordered calomel, grs. xii., to be followed with castor oil if necessary; blister to right side to be dressed with ung. hydrarg.

The following day the calomel had operated well, and the blister drawn well; but, the patient not having improved much, I determined to use the veratrum viride, especially as the pulse was still 120. I directed 4 drops of the tincture to be given at two o'clock, P.M., and the same quantity to be repeated every hour, until I saw the patient again, which was a little after five o'clock, P.M. I did not follow the directions of Dr. Norwood, who, I believe, orders 7 drops the first hour, and one additional drop every subsequent hour, until reduction of the pulse has taken place. Judge of my astonishment, when I found the pulse reduced to 96, at my visit a little after five o'clock, after the patient had taken four doses of 4 drops each. She complained bitterly of the medicine, that it made her very sick, and declined to take any more of it. Insisting, however, upon its further use, she was induced to take two more doses of 4 drops each, when, at seven o'clock, P.M., the pulse was reduced to 64. The medicine was now suspended, and the pulse fell still more, till it reached as low a point as 60 before eight o'clock. Hysterical symptoms supervening, morphine, in repeated and large doses, was administered with the happiest effect. Next morning the pulse had risen to 88, but one or two doses of the tincture, of only 2 drops each, reduced it again to its former standard, and the patient recovered rapidly without any untoward symptoms, and without the further exhibition of any more medicine. I would also state, that there was a violent palpitation of the heart, previous to the administration of the veratrum, but the lady assured me that even after taking the first dose she could feel this very sensibly diminish, till it disappeared, with the other symptoms.

PART SECOND.

CRITICAL ANALYSIS.

ART. XII.—*On the Nature, Signs, and Treatment of Childbed Fevers;* in a Series of Letters to his Class. By CHARLES D. MEIGS, M.D., Professor of Midwifery and Diseases of Women and Children, in Jefferson Medical College, Philadelphia, etc., etc. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 362.

Puerperal Fever as a Private Pestilence. By OLIVER WENDELL HOLMES, M.D., Parkman Professor of Anatomy and Physiology in Harvard University. Boston: Ticknor & Fields, 1855. 8vo. pp. 60.

IMPERFECTLY as the term puerperal fever serves to define the pathological conditions to which it is universally applied, it is, nevertheless, a term of definite and fearful import to both the practicing accoucheur and the unfortunate victim of the disease. To them, no other appellation, however generically or pathologically correct, could be more truly significant. Multitudes of widowed husbands and motherless children have too sadly known the terrific fatality of the malady that so frequently causes blighting desolation to homes and hearts, at that period of a mother's existence when joys and hopes are brightest; while almost every practicing physician can bear testimony to the anxious vigil which every case of childbed fever has uniformly cost him, from the first prodromic symptom, until the patient was fully recovered, or, alas, had reached the fatal end to which the disease so fearfully tends.

No disease which we are called to treat demands greater promptness and skill in diagnosis and therapeutical management; none requires a more enlightened and discriminating judgment, or more accurate pathological knowledge on the part of the physician; for the malady occurs at the most important and susceptible hour of a woman's existence, and the insidiousness and suddenness of its onset are equaled only by the rapidity of those grave pathological events that mark its progress, and which inevitably jeopardize or destroy life.

Much as has been written upon the subject of puerperal maladies, and numerous as have been the theories relating to their pathology, it has remained for physicians of the present day to reduce the facts in this department of Medicine to anything like scientific exactness; and that even some of the most important questions relating to the special etiology and pathology of puerperal fever yet remain *sub judice*, more striking evidence could not be had than is afforded by the two treatises we are about to examine.

The Letters of Professor Meigs will be read with great interest by the thousands who have admired him as a teacher, and loved him as a kind-hearted professional friend; and whatever may be the merits of the author's peculiar opinions, and whatever his errors, no physician can attentively read these letters without profit.

The ample clinical experience which Dr. Meigs has so long enjoyed in his special department of practice, no less than the eminent position he occupies as a teacher, should certainly qualify him to speak with assurance upon the important topics which called forth these letters; and, although the author's enunciation of his opinions is occasionally too dogmatic to be agreeable, those opinions are certainly worthy a thorough investigation.

Dr. Meigs' heroic practice of blood-letting in the treatment of puerperal fever, and also his denial of the contagiousness of the malady under any circumstances, are already well known to the profession. In these letters he gives the reasons upon which he has based his doctrines; and notwithstanding the pugnacity with which he denounces all conflicting opinions, and especially those which he has designated as "the jejune and fizzenless dreamings of sophomore writers," no one can doubt that Dr. Meigs always speaks his honest convictions.

The first three letters are devoted to a rambling account of the antiquated notions of *errements du lait*, *lait repandu*, or milk metastasis, which may be interesting to the students of his class and such other persons as have never examined the history of those chaotic fancies that filled the minds of physicians of early times, before there was any correct knowledge of the pathological anatomy of this and kindred maladies.

Though entirely unconnected with the subject, our author refers to the obsolete dogmas of Willis, Doublet, and Vigorous, as being the basis of the rational doctrine of blood vitiation taught by Ferguson and Rigby—a doctrine, correct or not, that certainly has other and better foundation than the vague conjectures of those old writers. Dr. Meigs himself refers to the fact that pyæmia is apt to occur in puer-

peral maladies; and as the blood is frequently found in this diseased condition in fatal cases of puerperal fever, it is not strange that Ferguson's theory is a popular one.

Previous to Ferguson's publication, Cruvelhier had taught that the internal surface of the uterus after parturition, like a stump after amputation, is apt to become a nidus for pyæmic poisoning, pus and putrid fluids being absorbed therefrom, and conveyed throughout the adjacent viscera and tissues. This theory of the etiology of childbed fever may be wider the truth than that taught by Locock and others, who consider that the primary morbid impression is made upon the nervous system; but the doctrine of toxæmia is based upon facts that have been observed in the symptomatic progress of the disease, and in its pathological anatomy—not upon any modification of the old hypothesis of a milk metastasis.

Adopting the theory of *endangial hæmatosis*, or the blood-making power of the *membrana vasorum communis*, Dr. Meigs announces that "many of our most fatal childbed fevers are nothing more nor less than instances of endangitis, cases in which the membrana vasorum of the uterine and crural, and even the cava veins, are the seat of an inflammation called childbed fever, milk-leg, depôt laiteux," etc., etc.

To this doctrine of phlebitis no one will take exception, for it has been demonstrated sufficiently often; but not every pathologist could subscribe to the following bold statement which our author puts forth concerning the special pathology of the phlegmasiæ:

> All scarlatinas, measles, variolas, varicellas, erysipelas, gout, rheumatism, and many forms of childbed and other fevers, have their prime seat in the blood membranes (endangium), and are but so many varied expressions of its diseased condition.

Now, if there exists any foundation for this bold hypothesis, it certainly is not surprising that Dr. Meigs should find in phlebitis, or, as he learnedly denominates it, *endangitis*, the principal cause and primary pathological event of childbed fevers. But if Dr. Meigs bases his hypothesis upon the fact that, in less than a moiety of the cases of death from puerperal maladies, there have been found evidences of uterine phlebitis, or, as we may infer from his language, upon some collateral evidences afforded by the phenomena and history of the eruptive fevers, this announcement of his widely-applied hypothesis would seem to be at least premature. Locock and Ingleby, or Cruvelhier and Ferguson, can furnish far more satisfactory demonstrations of their respective theories. Indeed, unless Dr. Meigs' theory of "Endangitis" can be made to apply to all inflammatory diseases, both

simple and specific, we conceive that it must eventually share the fate of the fanciful hypotheses of Willis, Puzos, and Vigorous; and even if applied to inflammations, generally, we fear it may find no clearer demonstration than did the old notions of a *lentor*, the *error loci*, etc. It were well for the honor of medical science, and for the credit and advancement of the healing art, that all hypothetical philosophizing upon the subject of inflammation, and upon the occult processes of hæmatosis, were refrained from until we obtain more reliable data from which to deduce rational theories.

We do not find that the distinguished author of these Letters has added anything to the already existing stock of knowledge on the subject of inflammation, and he has contributed nothing to our knowledge of the pathological anatomy of puerperal fever. He has merely announced the fanciful hypothesis of endangitis, or an aberrant endangial hæmatosis, as the *ultima thule* of pathological research.

The following is a striking specimen of his disquisitions upon this theme:

"The blood is the fluid body. The body is fixed or rigid blood." (Burdach.) The antagonism or polarity of these two is a vital force—either dies but for the continued activity of the other, and this relation of each to the other takes place through, and only through, the solids of the blood vessel. (Endangium.) * * * * * * * * * A woman pregnant is often observed to labor as to her circulation; she becomes sometimes plethoric and hyperinotic; at other times she is to the last degree hydræmical. The force of her hæmatosis is exaggerated or exhausted, as the case may be, and the direct fault, the pathological fault, is to be traced to a state of the Endangium, which is her blood-making tissue, which has the same relation to the functions of hæmatosis as the gastro-enteric mucous membrane has to the process of her digestions.

As we shall presently have occasion to notice, this crude theory which Dr. Meigs has adopted, and which determines both his views concerning the etiology and pathology of puerperal fever, and his practice in its treatment.

Is Puerperal Fever Contagious? Professor Meigs has decided that it never is. Professor Holmes has *proved* that it often is contagious, and sometimes fearfully so.

The poetic Harvard professor has furnished an absolute demonstration, by facts, of the affirmative, while the veteran and staid teacher and accoucheur of the Quaker city has defended the negative with the poetic arguments of fanciful hypothesis, and by an elaborate investigation of the etymology of the term contagion.

This question of the communicability of puerperal fever being one

of the most important that can concern the friends of a lying-in patient, or that ever addresses itself to the conscience as well as the self-interest of an accoucheur, any difference of opinion on the subject naturally leads to earnest discussion, if not to acrimonious feelings. But upon such a question, involving, as it does, the lives of confiding patients, and the honor of our art, physicians should at least be so far agreed as to yield assent to any rules of attendance upon puerperal fever cases, which the majority of intelligent physicians in any community may adopt.

Dr. Meigs utterly denies that childbed fevers are ever communicable from one person to another; and he bases his argument upon the following considerations: 1st. The topical inflammation of the pelvic organs in some of their tissues seems to be the primary pathological event, while the fever is merely symptomatic. 2d. Contagious diseases are all specific in character, as variola, syphilis, etc. 3d. They affect the race of mankind without respect to age, or sex; it is not so with puerperal fever. 4th. It is an absolute condition of contagion that it must undergo some certain incubation. 5th. Puerperal inflammations are often more rapid in progress than infectious diseases are. 6th. The medical opinions and doubts of certain reputable physicians; as Prof. Dewees, Dr. Robert Lee, Baudelocque, and Jacquemier.

Prof. Meigs strongly fortifies his opinions by certain facts that have been observed in hospital practice where puerperal fever has been endemic, and especially does he find his views corroborated by the experience of Von Busch in the lying-in hospital of the University of Berlin.

Dr. Holmes' Essay, which was first published some twelve years since, having attracted marked attention to the question of contagion, in Great Britain no less than in our own country, and as that Essay presents an incontrovertible argument, and a most earnest appeal to the medical profession, Dr. Meigs has very naturally made special allusion to it and its talented author. In language and in a spirit that reminds one of the haughty giant who defied the champion and poet of Israel, the "American writer of a small pamphlet essay" is very summarily disposed of; but, in Dr. Holmes' rejoinder and the republished Essay, are found selected the *facts* just suited to pierce the closest brazen armor of assertion and theory. The arguments adduced by Prof. Meigs are briefly answered by Prof. Holmes, and the facts upon which they are based he endeavors to assess at their true value. There is no attempt at retort upon the author of the letters, notwithstanding the provocation. With the dignity of a true physician, Dr. Holmes says in his rejoinder:

"I take no offense and attempt no retort. No man makes a quarrel with me over the counterpane that covers a mother with her new-born infant at her breast! There is no epithet in the vocabulary of slight and sarcasm that can reach my personal sensibilities in such a controversy."

It is admitted on all hands that puerperal fever often prevails in an endemic or epidemic form, and that in these forms the malady is usually of a highly malignant character; that epidemic puerperal maladies have prevailed with more or less constancy in connection with epidemic or malignant erysipelas; and that whether epidemic or not, but especally when epidemic, cases of erysipelas and of puerperal fever are sometimes observed to occur in such relations as to lead to the supposition that, through the agency of the accoucheur or some other medium, erysipelas in one patient may induce a puerperal fever in a lying-in patient. But more universally is it admitted that, epidemics of puerperal fever have been frequently observed to be limited to the practice of a single physician, however widely that physician's patients may have been scattered and however great the number of accoucheurs in the same community. Again, the instances are not infrequent in which such individual epidemics have sprung up and followed in the practice of a particular accoucheur who, immediately preceding his initial case of puerperal fever, had been exposed to the cadaveric infection of puerperal or other diseases, in autopsies held in places remote from the localities that subsequently enjoyed his services as an obstetrician, and suffered from the epidemic that followed his practice.

It was by the collection of reliable facts relating to these points, and by an investigation of the circumstantial history of the individual cases of the disease, that Dr. Holmes succeeded in arousing the attention and the conscience of our profession to the importance of the questions which are involved in the disputed point that these facts seem to settle; and we trust that every physician in our country will procure and read this excellent Essay of Dr. Holmes, which Dr. Ramsbotham has recently pronounced to be "the best paper in any language written to prove the highly contagious nature of puerperal peritonitis; * * * a masterly performance, and well worth perusal by any skeptics on the subject."

The author of the Letters seems to have furnished, in defense of his opinions, the strongest arguments of which the negative of this question of contagion is susceptible, and we entertain the opinion that the peculiar earnestness with which he has enforced the doctrine of the non-contagiousness of puerperal fever will, upon the whole, prove beneficial to the physicians who read his book; for the Professor's reasonings

upon this subject will fail to convince many of his class who, but for the attention and criticism which this portion of the treatise will provoke, might be left to adopt, without question, the author's heroic practice of blood-letting.

But Dr. Meigs' Letters are by no means devoted exclusively to the defense of opinions which are of questionable correctness, or to doctrines that are of doubtful utility.

In Letters 7, 8, 9, and 10, is furnished a very complete and practically valuable *résumé* of the rational etiology, the semiology, and the pathological anatomy of childbed fevers, together with a brief history of puerperal fever epidemics.

Letters 19–26, inclusive, are devoted to the subject of *treatment.* Blood-letting is announced as the "chief remedy," and the author's views of the *ratio medendi* are exhibited in the following quotations:

As a physician in practice, I could not but be much given to confide in phlebotomy as a means of conservation against threatened attacks, as well as the case of sickness already formed; for as much as in all my views of vital action, whether physiological or pathological, I have never been able to conceive of either sense or motion as things possible, independently of a quantitative state of the circulating blood. I speak here of the capillary blood, in the part wherein the sensation is perceived, or the motion effected. I think I shall never become able to view the matter in any other light; for I am convinced that all acting power of the nervous mass is an absolute and direct consequence of the combination of oxygen, in the blood, with the albuminous element of neurine. * * * Febrile diseases and all inflammations are, manifestly, conditions or states growing out of over-production of this neurosity, in the whole or in the parts. * * * The brain capillaries give out the oxygen, whose combination with neurine elicits the flash of life as the biotic force or nervous force; hence, quantitative states of the blood in the encephalon determine the quality or force of the nerve stream. In inflammations, on the contrary, it is the organs or tissues that are first to be affected; and from such affections or modifications of their vital state flow the constitutional disorders, reactions, or perversions. The former are centro-peripheral; the latter are peripherocentric maladies. They are diseases of opposite poles; the idiopathic fevers being affections dependent on states of the encephalic pole, while inflammatory diseases and disorders of the organs are results of failure or derangement in the organ-poles of the body.

Tissues, in a state of inflammation, may be said to tend always to expand or augment the areas of the phlegmasia, in a ratio compounded of the force of the blood's motion within their capillary vessels, and the vital power of vascular resistance to the injecting force of the heart. A strong, full, frequent pulse, tends more to the expanding of the inflamed areas than a weak, small, slow one. Therefore, to diminish the injection power of the heart, is to lessen the tendency to expansion in phlogosed areas.

Dr. Meigs considers that the lancet, boldly used, is adequate to meet all the great emergencies of puerperal fevers. Leeches, cups, and mercurials, in his estimation, are of no value, and the use of opium of very questionable utility.

Copious bleedings, *coup sur coup*, and continued so long as pain exists or the blood is *sizy*, is the only treatment in which Dr. Meigs has any confidence. He also insists upon the great importance of keeping the bowels open, and, although the means he recommends for this purpose are as mild as purgatives can be, it has always appeared to us that too much care is bestowed upon the alvine dejections in cases of puerperal peritonitis. It is in connection with peritonitis that tymponitis is apt to occur, and our author says:—"It is against this frightful tympanitic distension that the use of purgatives should be directed." In this connection, he incidentally suggests a remedial agent of great value in these cases, an agent which we have in several protracted and typhoid cases resorted to with great satisfaction. He says:—"I have found doses of tincture of nux vomica to act very fortunately, in reducing the tympanitic distension, in certain cases of childbed fever. The doses, say five drops every two or every four hours, may be safely exhibited."

Sudorifics enter largely into our author's treatment of childbed fevers; and among these, after Dr. Meigs' posset drink, tartrate of antimony stands first. This he administers in minimum doses of from the thirtieth to the seventieth of a grain. The posset, which we are told will cause a patient to "sweat like a squeezed sponge," is made as follows:—"Take a table-spoonful of sherry, a wine-glassful of milk, and a dessert-spoonful of sugar; pour over the mixture three-quarters of a pint of boiling water, and strain the liquor, to be taken rapidly and as hot as it can be borne." Dr. Meigs adds, "whosoever swallows this posset will infallibly sweat profusely within a few minutes after swallowing it."

Blisters, turpentine stupes, and sinapisms are utterly denounced by Dr. Meigs, and the simple epithem of a soft wet cloth, under oiled silk, is very justly commended as the pleasantest of all topical applications to the abdomen.

The view which Dr. Meigs takes of the relation of puerperal maladies to typhus and other grave diseases, seems to be eminently rational, and it aids him in accounting for many of the facts observed in epidemics of puerperal fever, especially such epidemics as are frequently witnessed in hospitals and lying-in asylums.

Letter 28th is devoted to *febris gravidarium.* The author says upon this subject:—

A *febris gravidarium* ought, in my opinion, to be invariably looked upon as an endangial inflammation. It is a real disorder of the blood-vessels, and its seat is chiefly in the sanguiferous vessels of the reproductive system of tissues. It is this that renders it dangerous; a danger not a little enhanced by the uncertainty and even impossibility of making an early diagnosis. The diagnosis is an *ex post facto* determination in these maladies.

Letter 29, on crural phlebitis, completes the volume; and whatever may be the merits of the work as a literary effort, there can be no doubt that the many practical suggestions which the letters contain, and the earnest hints they give to young practitioners, will prove eminently serviceable for practical purposes.

Those who appreciate the circumstances under which these Letters were written, will not harshly criticise the author's peculiarities and faults of style. Professor Meigs has a law unto himself in rhetoric; and it is not unjust to say he may claim as much for some of his logic. He has opinions that are peculiarly his own, and which he defends with a vigor we admire, but sometimes with a pertinacity that astonishes even his warmest friends. We see this in his discussion of the question of the communicability of puerperal fever. Probably no amount of evidence would convince Dr. Meigs that a puerperal fever has ever been communicated from one lying-in patient to another through the medium of the accoucheur; and on this point Dr. Ramsbotham, who honors Prof. Meigs by the dedication of the last edition of his treatise on Obstetrics, has remarked, "as this physician also *wholly rejects the doctrine of contagion in measles and scarlet fever*, we can scarcely fail to believe that his opinions, regarding the non-communicability of disease in any of its forms, are too deeply planted to be rooted out by any facts, or arguments, which it is in the power of either Nature or Philosophy to supply."

After such an expression from so generous and noble a friend and admirer as Dr. Ramsbotham, Dr. Meigs cannot charge us with unfairness or disrespect in this notice of his Letters. Indeed, we confess that we entertain a very high respect for the firmly expressed convictions and opinions of such veteran practitioners as Prof. Meigs and Prof. Hodge, however widely those convictions and opinions may differ from the popular doctrines of the day, and however contrary to science and reason may be the philosophy by which they are defended; for these convictions and opinions are the results of long-continued observ-

ation. This remark applies as truly to Dr. Meigs' views of treatment, as to his opinion of the non-communicability of puerperal fever. There are many facts connected with these subjects that are not completely conformable with any existing theories; yet such facts are not the less reliable and true. Such, for example, are some of the observations which have been made in the history of individual epidemics, as in the case of Dr. Rutter, of Philadelphia, of Drs. E. P. and H. N. Bennett, of Ct. (*N. Y. Journal Med., Vol. XI., p.* 30), and various hospital epidemics of puerperal fever. The same also may be said of facts observed in the treatment of puerperal maladies; one physician has found early and copious blood-letting the only remedy required, and the *sine qua non* of cure; another practitioner finds in mercurials, etc., the greatest success in treatment, while another employs opium in heroic measure, and in hospital service finds it to surpass all other remedial agents ever employed in the fearful endemics of lying-in wards, where phlebotomy and mercurials had previously proved surest messengers of death, rather than a means of cure.

Facts like these certainly appear to indicate that puerperal maladies are, under different circumstances, in different localities, and different seasons, by no means generically and constantly identical in type; and that, notwithstanding the fact that a local inflammation affecting some portion of the pelvic organs is the most characteristic pathological event in puerperal fever, each case and every epidemic of the disease requires special treatments adapted to the particular constitutional condition of the patient and the general constitution of the year. We have no doubt that Prof. Meigs has enjoyed eminent success in the treatment of puerperal inflammations by heroic blood-letting. He practices in the city of Philadelphia, and among a class of people who are well fed, and have a vigorous nervous system. He sees his patient at an early hour of an attack of the malady, and the vigorous onset that he then makes upon the disease is the only onset that should be made upon such an inflammation as puerperal peritonitis, when the lancet is the agent relied on. But this mode of treatment has often killed a far greater number than it has cured, in hospital service, and in certain epidemics of puerperal fever.

Nearly as much may be affirmed of the treatment by calomel, and probably this potent agent has been more grossly misused; but of opium, though less, perhaps, is known of its *modus medendi*, we certainly believe that a more favorable report will eventually be rendered than has yet been awarded in favor of any other remedial agent that has ever been resorted to. An interesting chapter on the mode of

its administration, and some of the results, may be found in the last American edition of Dr. Ramsbotham's Obstetrics, from the pen of Prof. Alonzo Clark, of this city. This opiate treatment seems to be peculiarly adapted to hospital epidemics, as witnessed in the wards of Bellevue, in the service of Prof. Clark, and in the State Emigrants' Hospital, under Prof. H. G. Cox, while, in private practice, it has yielded the most highly satisfactory results. E. H.

ART. XIII.—*Traité des Fractures et des Luxations.* Par J. F. MALGAIGNE, Chirurgien de l'Hôpital Saint-Louis, &c., &c. Avec un Atlas de 30 Planches, 2 vols. J. B. Baillierc. Paris: 1847–1855... pp. 1950...

[*A Treatise on Fractures and Dislocations.*—By J. F. MALGAIGNE, Surgeon of the Hospital St. Louis, &c., &c. With an Atlas of 30 Plates, &c., &c.]

THE great work of M. Malgaigne, on Fractures and Dislocations, is at last completed. French surgical literature is deeply indebted to the author for his attempts to place his country on a level with the position which, as regards the subject under consideration, has been proudly occupied by Great Britain and Germany. With such models before him as the immortal treatises of Sir Astley Cooper and Adolph Leopold Richter, M. Malgaigne resolved that France should no longer remain *en arrière.* In 1847, he presented to the profession his first volume, which treats of Fractures. To this subject he devoted 842 pages, and the text was accompanied by 16 superbly executed plates. The second and last volume, on Dislocations, contains 1108 pages, and this subject is illustrated by 14 plates. Thus we have a treatise of nearly 2000 pages, and a collection of 30 plates, the latter standing unrivaled, and reflecting the highest credit on M. Delahaye, the artist, whose sketches have been chiefly taken from the three great museums of the French capital, viz.: the *Musée des Hopitaux;* the *Musée Dupuytren;* and the *Musée du Val-de-Grace.* In whatever collection he has been able to find any rare and important specimen, he has availed himself of it to enrich his Atlas: "*et c'est ainsi que j'ai eu à ma disposition plus de richesses que jamais peut-être aucun auteur n'en a possédé.*"—(p. 7.)

It has been his aim to guard against those imperfections which, in the form of *imaginary* lesions, disfigure certain works on the same subjects, and to give to his own the grand characteristic of "*la realité.*"

With the materials at his disposal, and the labors of his predecessors from which to profit, we have a right to expect a complete summary of the present state of our knowledge on the topics discussed in these comprehensive volumes. It is our purpose at present, to determine how far he has succeeded in the task assumed. And here, at the outset, we feel inclined to censure M. Malgaigne for the non-fulfillment of the promise made in his preface to the first volume, viz.: that instead of quoting in the text the various authors to whom he may have occasion to refer, he would at the close of the second volume append "*une bibliographie générale et raisonnée*," in which he would endeavor "tracer à grands traits l'histoire de l'art sur cette matière, de suivre le progrès des idées, la série des auteurs, la chronologie des grands ouvrages et de leurs principales éditions." No such addition as this is to be found in the second volume, but the names of the writers quoted, together with the titles of their special contributions, are recorded on the bottom of the same page. We pass over the first 13 pages, in which are discussed the etiology, varieties, and general symptomatology of fractures, and stop to ascertain the views of our author in reference to the formation of callus, a question which, as he justly observes, has been perhaps more frequently agitated and elicited more different views than any other in the whole domain of surgery. After reviewing the various theories which have been proposed, he thus gives us his views upon the subject:

"Callus is formed from plastic lymph, which lymph is probably secreted by the medullary tissue and by the periosteum, and perhaps by the fractured surfaces of the bone. This lymph becomes infiltrated in the adjacent tissues, but more especially in the periosteum and the medullary substance; blood-vessels now penetrate it, it becomes organized, and occupies the place of the effused blood which is absorbed. It is worthy of remark that a very large effusion of blood is an obstacle to the consolidation of the broken ends of the bone. This is the condition of things in simple fractures, or those not exposed to the air. In fractures complicated with a wound of the soft parts or suppurating surfaces, Hunter believed that union was effected by fleshy granulations developed on the broken ends of the bone, which granulations became at length transformed into osseous tissue. This opinion was embraced by Dupuytren, but to us it seems to have no foundation in facts. According to my observations on the human subject, coagulable lymph is effused only in parts not exposed to the air, and it penetrates even the interstices of the fragments, provided the air be excluded. Granulations form only on the suppurating parts, and instead of pro-

moting consolidation they can only exist at the expense of the bone which they corrode, or which is absorbed where they are developed." (pp. 117–18.)

His views are further illustrated by an admirably executed delineation of a compound fracture of the tibia (Pl. 1., fig. 7). But interesting and important as is the question of the reparation of bone, our limits are altogether too brief to enter into a lengthy examination of the various doctrines which prevail on this subject, and we proceed to an investigation of the causes which are known to interfere with the process, and which result in the formation of false joints. Our author arranges these under the following heads:—1, Where the fragments are completely separated; 2, where they are connected by the fractured ends without any perceptible overlapping; and 3, where the bones are separated, and the bones are in contact only by their lateral surfaces. In endeavoring to determine the influence of age in producing this condition, M. Malgainge has found that, contrary to the commonly received opinion, old age offers the smallest number of cases; the greatest frequency being between the ages of twenty and thirty. About four years since, the writer had temporary charge of a patient, ninety-two years of age, with a broken leg, and, in this case, union became perfect in little more than the time ordinarily required. Among the numerous causes, which are accused of preventing the reparation of bones, the most frequent, according to M. Malgaigne, is the treatment adopted. The season, regimen, pregnancy, cancer, syphilis, scurvy, etc., etc., may produce the same effect; but injudicious treatment, such as the abuse of topical wet dressing, the premature, too tight, or prolonged application of bandages, the mobility of the fragments, etc., etc., is, in his opinion, the most common cause. No patient, under his own care, has ever been the subject of a false articulation.

Between a simple retarded union and a pseudarthrosis there is an essential difference, although the differential diagnosis is not always easy, and in some cases, even, is impossible. The most common cause of this retarded union is the obliquity of the fracture, and the separation of the fragments, or, it may result from the mobility of the parts. The indications of treatment will, of course, vary according to the nature of the cause by which the condition is maintained, although our author embraces all under the following heads:—1, The parts must be kept immovable for a sufficient length of time; 2, the fragments must be approximated by compression; 3, the vitality of the parts excited by local means; and 4, attention should be paid to the gene-

ral health of the patient. In the diagnosis of false joint, Mr. Stanley, of St. Bartholomew's Hospital, London, attaches much importance to the pain which the patient suffers at the ununited part. In a clinical lecture, reported in the *Dublin Medical Press*, August 2, 1854, he remarks that this pain is "the best test that union is not completed."

The various methods of treatment, adopted for the cure of pseudarthrosis, are examined in the following order:—1. Friction of the ends; needles; the seton; the ligature; resection; rasping of the fragments; and, finally, cauterization. The merits of each of these are examined in detail. Notwithstanding the claims to priority, in the use of the seton, which has been asserted for Winslow and Percy, M. Malgaigne awards to Dr. Physick the credit of being the "fondateur de cette methode." As our readers are aware (vide Jan. No., 1855, pp. 134–35), the value of this method has recently been questioned by Prof. Brainard, of Chicago. Of the success of the seton, in many cases, there can be no doubt. That Dr. Physick, however, was correct in his views of the *modus operandi* of the seton, is by no means so certain. If the opinions of our author, to which we have already referred, be true, granulations on the ends of the bones (which, Dr. Physick supposed, became ossified) can exert only a pernicious influence on the process of the reparation. As the soft parts alone can furnish the materials for the formation of callus, observes our author, why should we attack the ends of the bones? The seton, in his opinion, should be left in the parts for the time only necessary to produce a sufficient *engorgement* of the soft parts—a period which varies from eight to fifteen or twenty days.

The subcutaneous scarifications of the fragments, recommended by Mr. Miller, of Edinburgh, it seems was proposed by Sir Charles Bell, and tried, unsuccessfully, by Blandin.

It is gratifying to observe, that the labors of our own surgeons, on this subject, have not escaped, as is too generally the case with French writers, the attention of our author. He has referred to the cases treated by Drs. Mott, the lamented J. Kearny Rodgers, Cheeseman, and he has availed himself of the writings of Norris and Heard. From the date of his publication of the volume on Fractures (1847), we could not expect to find a notice of the more recent methods introduced by Dieffenbach, such as the ivory pegs, the galvanic treatment of Mr. Burnam, blisters, or the bone-drill of Prof. Brainard. But as these have been reported in former numbers of this Journal, we must dwell no longer on this interesting practical question. When union cannot be effected by any of the plans of treatment above-mentioned, ampu-

tation may, in many cases, be avoided, by resorting to the mechanical means recommended by Prof. H. H. Smith, in a late number of the *American Journal of Medical Science*. But we must proceed to the consideration of fractures of particular bones.

Fracture of the Os Hyoides.—In the last number of this Journal (p. 152), a case of this exceedingly rare accident was republished from the *Western Lancet*, and which occurred under the observation of Prof. Wood, of Cincinnati. Our author refers to the examples reported by Orfila, Ollivier, Cazauvieilh, Lalesque, Dieffenbach, Auberge, and M. Marcenkowski, the latter being the only instance which has come to his personal knowledge. Ollivier d'Angers saw a case in which the fracture was the result of muscular contraction. A female, æt. 56, in falling, had her head violently thrown backwards; a distinct, crackling noise was heard, caused by the fracture of the great horn of the os hyoides. The prognosis, of course, varies, according to the complications of the fracture. In the patient seen by Ollivier, inflammation and suppuration followed, together with necrosis of the posterior fragment, which, at the end of three months, escaped through a fistulous opening. This latter speedily closed, but difficulty of deglutition, attended, at times, with pain, continued for several years afterwards. If no displacement exist, the principal indication in the treatment is to prevent and subdue inflammation. When the fragments are displaced, co-aptation may be effected, by passing the index finger into the mouth, and pressing the posterior fragment outwards, while, with the other hand, the displaced parts are brought into contact. M. Lalesque introduced the œsophageal tube, through which the patient was some days nourished; and, in his case, union did not occur under two months.

Fractures of the Spine.—Under this head we shall notice those cases only in which there is depression of the *arc vertebral*. Our author quotes from Paul d'Algina to show that, even at his epoch, it was proposed in such cases to remove the depressed fragment, an operation which M. Malgaigne characterizes as "*à la fois inopportune et dangereuse;*" inexpedient, because of its uncertain character; dangerous, because, if the dura mater be lacerated, air may be admitted into the arachnoideal cavity. The only case in which it would, in his view, be justifiable, is that in which there is an open wound, and the bone is *splintered*. He refers to an instance in which Louis operated in 1762, with great benefit to the patient. But, he asks, when consolidation has taken place with depression, and the paralysis would seem to be maintained by this compression, is it in the power of the surgeon to

afford relief? On the affirmative side of this question, he quotes the case in which Dr. Alban Goldsmith operated, and which is reported in the *North Amer. Med. Surg. Journal*, July, 1829. But as he asserts, its details are so imperfect that it forms no criterion by which to judge of the real value of the operation. During the past winter the writer had occasion to resort to this proceeding in two instances. One case terminated fatally on the 8th day; the other was materially benefited, and is still gradually improving. The paralysis here was of about 5 years' duration, and at present, we will only remark, that the patient has had no reason to regret that he tried the chances of this inexpedient and dangerous operation.

Fractures of the Ribs.—In fulfilling the chief indication in the treatment of this accident, viz.: to secure the immobility of the bones of the chest, much mischief has often been the result of applying too severe constriction. Most of the bandages recommended encircle the whole thorax. To obviate the inconveniences resulting from these, M. Malgaigne has proposed thus to apply bands of sparadrap plaster: one end being placed on a level with the anterior extremity of the right seventh rib, it is passed around the left side of the chest, below the scapula, and over the right scapula, from which point it is made again to encircle the left side of the thorax, and so on, until it reaches the spine of the right ileum. In this manner, although seriously impeded on the left, respiration is perfectly free on the other side. If we mistake not, Mr. Hilton, of Guy's Hospital, is the author of a better plan. He applies strips of adhesive plaster, which extend from the spine, across the side affected, to the sternum. If there be deformity from displacement of the fragments, the action of these will be greatly improved by the addition of strips applied longitudinally. His clinical lectures on this subject were published, with illustrations, in the London *Lancet*, but at present we are unable to refer to the number, or even the year of publication. When complicated with extensive emphysema, the highest authorities have advised incisions into the pleural cavity, for the purpose of emptying the chest. This practice, however, according to our author, is both unjustifiable and dangerous. If confined to the trunk no treatment is necessary; even when excessive, simple punctures with the point of a lancet are sufficient to give exit to the air, or promote its absorption.

Fracture of the Clavicle.—We have heard surgeons, of the highest respectability, question the value of any of the methods commonly adopted in the treatment of fractures of the clavicle. They have boldly asserted, that as few instances of deformity are met with in

which no treatment has been tried as in those where every precaution has been taken to guard against its occurrence. Unless more than ordinary anxiety be felt to obtain union without deformity, our author recommends that all the various forms of apparatus used should be discarded; but if perfect union be required, then he would enjoin upon his patient to remain on his back in the horizontal position for three weeks; the elbow should rest on the side or in front of the chest, the arm on the sound side be fixed, the head be retained immovable on the pillow, and finally the hand of an assistant should hold the broken ends in apposition. It is stated that this treatment was actually carried out by M. Mayor, in the case of a young lady at Berlin. Fox's apparatus, or Bartlett's modification of it, as published in the March No., 1855, of this Journal, would have enabled M. Mayor to have dispensed with the *hands* of his assistant, and would, in our humble opinion, be far more serviceable than the *double crochets d'acier, analogues aux pinces de Museaux*, suggested by M. Malgaigne.

Fracture of the lower end of the Radius.—If undetected, or improperly treated, this accident may seriously affect the appearance and utility of the forearm and hand. Pronation and supination, motion at the wrist-joint, retraction of the fingers, etc., etc., may all be the consequence. Our author asserts that, at the present day, the diagnosis is so easy, that the surgeon can have no excuse for an error in this respect. But we can notice only his views of the treatment of this accident. This varies according to the existence or non-existence of displacement. In the latter case two splints or the dextrine bandage are sufficient, but displacement adds the following indications: 1, to restore the interosseous space; 2, to remedy the posterior displacement of the lower end (or the anterior, if it exist); 3, to overcome the abduction of the hand by bringing the styloid process to its natural level. M. Malgaigne remarks, that he has found no difficulty in procuring union in these cases without stiffness at the wrist-joint, deformity, or any injury to the functions of the limb, except in those instances complicated with a true luxation of the ulna. He makes use of two lateral splints which act like the dorsal and palmar in opposing the backward displacement. In order to guard against interfering with the movements of the wrists or fingers, the splint does not extend below the first row of the carpal bones. The apparatus is permitted to remain until the 18th or 22d day, when the dressings are renewed. The method of treatment recommended by Dr. Bond, of Philadelphia, is that which is most in favor with American surgeons. His paper on this subject, with illustrations, was published in the *American Journal*

of Medical Sciences, for April, 1852. Dr. Isaac Hays, the editor of that Journal has employed a simplification of Dr. Bond's splint with satisfactory results (vide No. for Jan., 1853). A piece of the lid of a cigar-box is carved, somewhat to the shape of the forearm, and it extends from the elbow to the distal end of the metacarpus; this is well padded with cotton, which is secured by a few turns of a roller. The body of the roller is then attached to the face of the palmar-end of the splint, and the apparatus is ready for use. The arm is then to be laid upon the splint, an anterior and posterior compress properly arranged, and the whole secured by a roller.

Fractures of the Neck of the Femur.—MM. Bonnet and Nelaton maintain that the majority of these fractures are without the capsular ligament; but, with Sir Astley Cooper, our author is of a different opinion. In proof, he furnishes statistics from the following collections:—

Dupuytren Museum, ...	32 Fractures.	20 Intra-Caps.
St. Bartholomew's Hospital .	12 "	6 "
College of Surgeons (Dublin) .	18 "	12 "
Richmond Hospital (Dublin) .	41 "	23 "
	103	61

Mr. R. W. Smith, in his *Treatise on Fractures in the Vicinity of Joints, etc., etc.*, has given a table of all the specimens of fracture of the neck of the femur contained in the principal museums of Dublin, of which 79 were intra-capsular, and 61 extra-capsular. M. Malgaigne asserts that Sir Astley Cooper was in error in supposing that the former accident is confined, principally, to patients upwards of fifty years of age. Of 28 cases, in which the age was noted by Mr. Smith (op. cit., p. 108), 1 was 36; 2, 40; 1, 46, and 4, 50; in 20, the age varied from fifty-five to ninety years.

What are the elements of our differential diagnosis in these two forms of accident? According to our author, when there is no displacement, we have no other symptoms than local pain, and impaired motion at the joint. In displacement, we have pain, tumefaction of the soft parts, loss of power in the limb; shortening, elevation and disappearance of the trochanter major; eversion of the foot, and, lastly, crepitation. The value of each of these is discussed in detail, but we can only notice one, viz.: shortening of the limb. Sir Astley Cooper states, that this varies from one to two inches; Mr. R. W. Smith, that the *immediate* shortening varies from a quarter of an inch to one inch; M. Brun, from six to eight lines; and M. Rodet estimates it at eight lines.

"Thus then," says our author, "in a recent intra-capsular fracture, the shortening may vary several degrees, but the double resistance of the capsule and the trochanter minor prevents it from exceeding one inch" (p. 671).

In some cases, as is well-known, there is, at first, no shortening, which M. Malgaigne attributes to the fact, that the fractured part is impacted, or, to the resistance of the periosteum; at a later period, this resistance is overcome, by the injudicious attempts to move the limb, or, by the inflammation and absorption, excited at the seat of fracture. Mr. Smith ascribes this absence of shortening to the integrity of the cervical ligament, and the sudden occurrence of this symptom, subsequently, as is sometimes the case, to the accidental laceration of this ligament.

Intra-capsular fracture seldom unites by *bony* union. So firmly did Delpech, at one time, believe in the impossibility of this union, that he offered, if we mistake not, a premium of 2,000 francs, for a genuine specimen of the kind, and when this was produced, he very coolly claimed the prize for himself, on the ground of priority in the discovery! When our distinguished countryman, Prof. R. D. Mussey, during his visit to Europe, in 1830, presented to Sir Astley Cooper a specimen in which such union had occurred, Sir Astley at first remarked,—"This was never broken." After a close inspection, however, he was compelled to admit, that appearances did look a little more like it, but he did not think the fracture was entirely within the capsular ligament! This is, by no means, a very uncommon illustration of the maxim, that "les faits souvent se moutrent rebelles aux theories." We think there are few who, at the present day, would question the *possibility* of osseous union in the accident under consideration. That it is exceedingly rare, on the other hand, there can be no doubt. In the seventy-nine cases, collected by Mr. Smith, in one only did it take place, whereas, in sixty-one of extra-capsular fracture, it occurred in seventeen.

According to Mr. Smith, the deposition of callus, around the fragments, is not necessary for the union of the intra-capsular fracture, as it is generally effected by the direct union of the broken surfaces, which are confronted to each other. Of course, it is most likely to occur in the variety termed impacted fracture. In concluding our remarks upon the intra-capsular fracture, we will observe, that, although M. Malgaigne has prescribed one inch as the possible extent to which shortening can occur, in the table of cases collected by Mr. Smith, we find, in four cases, it is stated to have been two

inches, and in one of these it was two and a-half inches. Our author is, besides, a believer in the possibility of bony union in this species of fracture, of three instances of which, he thinks, there can be no question. He does not agree, with Sir Astley Cooper, that the external fragment becomes, in time, absorbed, where union does not take place; but the inner fragment, owing to the great difference in vitality, may thus disappear.

Fracture of the Patella.—This, according to our author, is not a very common accident, but 45, out of 2328 cases of fracture, admitted into the Hôtel Dieu, having been of this nature. Hippocrates, Celsus, and Galen, make no mention of it, Soranus being the first to describe it. The influence of age, in predisposing to this accident, is most remarkable, for, in not a single instance, did it present itself under seventeen years of age, and M. Malgaigne has seen but one case, in a lad of eleven years. It is most frequent between the ages of thirty and fifty.

Transverse fractures are seldom produced by a direct blow on the part, without an accompanying fall. Boyer has reported a case, caused by the kick of a horse, but our author is not aware of any similar example. Violent muscular contraction, as is well-known, is the most common cause of this accident. Both patellas have thus been simultaneously ruptured, instances of which have been observed by Camper, Sue, Bichat, and Sir Astley Cooper. Does this form of fracture admit of osseous union? Pibrac denied the possibility of this, and even offered a prize to the one who should present him with a specimen of the kind. Instances of osseous consolidation have been seen by Camper, Sheldon, Boyer, and others, and M. Malgaigne himself has observed others, although the cases were not of a simple transverse fracture, but there was a small splinter of bone detached from one of the fragments. The almost constant absence of osseous union, in these cases, is due to the fact, that the plastic matter, secreted in part by the fractured surfaces, but more especially by the periosteum, cannot fill the interspace. In the majority of cases, quite an interval remains, but it is doubtful whether, in this condition of the parts, the use of the limb is not equal to that in which osseous union obtains.

Three methods of treatment have been proposed: 1st, to render the limb completely immovable; 2nd, to guard against stiffness of the joint, by moving the limb freely before the bond of union is complete; 3rd, there is the mixed method, which attempts to combine the advantages of both the others. Our limits will not allow us to enter into

an examination of the merits of the different apparatus recommended by Bücking, Evers, Böttcher, Aitken, Lampe, Graefe, Morgridge, Sir Astley Cooper, Mayor, and others, and most of which may be found delineated in Richter's Atlas of plates. Our author says, that these are totally inadequate to secure osseous union, and to effect this he has contrived an instrument which embraces the broken fragments, and maintains them in coaptation as does the twisted suture the soft parts. At the date of the publication of the volume under consideration, M. Malgaigne had employed this in four cases, and with very gratifying results. As this instrument is a *gripe*, the points of which penetrate the flesh to the bone, it was natural to expect that it would produce severe pain, inflammation, etc., but these have been but trifling. Experiments made with it at the N. Y. Hospital proved that it was far less painful than might have been anticipated. Sometimes the surgeon is consulted in cases where considerable time has elapsed from the time of the accident, and the fragments are already joined by a lengthy bond of union, rendering extension of the limb impossible. John Hunter treated a case of the kind successfully, by directing the patient to move it frequently with the hands and to make efforts to move it by the *will*. Sir Astley Cooper succeeded in the same manner, in another case, where both patellas were broken. Again, the edges of the fractured surfaces have been made bare, and the parts maintained as nearly as possible in apposition. Some years ago Dieffenbach divided, subcutaneously, first the ligamentum patella, and afterwards the tendon of the rectus femoris, about three inches above the patella, so as to avoid the synovial membrane. M. Malgaigne condemns this proceeding, as, in his opinion, it may result in an infirmity equally grave, with a badly united fracture. In one instance, our author retained the fragments in apposition for forty days. The fracture had occured three months previously, but the patient derived no benefit from this treatment. He suggests, that advantage might be gained *by incising* the edges of the fragments with a tenotomy. As a last resource, he recommends, as the most simple and effectual method, to render the knee immovable by means of a hollow splint placed behind the knee.

We must now conclude our notice of the treatise on fractures. Whoever peruses it, cannot fail to be struck with the almost complete absence of illustrations of apparatus employed in the treatment of these accidents. In this respect it contrasts most strikingly with the work of Richter, and with most others with which we are acquainted. It would be superfluous for us to add our mite of praise to the volume under consideration, nor was it our intention, when we commenced, to dwell

at any great length on a work which has now been for several years before the profession. In the next number of this Journal, we shall attempt a more critical analysis of the volume on Dislocations, which bears the date of the present year. G. C. B.

BIBLIOGRAPHICAL NOTICES.

ART. XIV.—*A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra.* By S. D. GROSS, M.D., Professor of Surgery in the University of Louisville, etc. Second edition, revised and much enlarged, with one hundred and twenty-four illustrations. Philadelphia: Blanchard & Lea, 1855. 8vo., pp. 925.

THE second edition of this excellent treatise is so much enlarged and improved that it has the character of a new work. About two hundred pages of new matter have been added to this edition, with a corresponding increase of illustrations. We shall limit our present notice of this work to some of the more important of these additions.

The sections on malformations, wounds, and lacerations of the bladder, are enlarged principally by the addition of cases. In speaking of the fatality of laceration of the bladder, the author changes the statement in the former edition, that, so far as he knew, there are only "two cases of recovery" from an injury of this kind upon record, to "scarcely half a dozen." The statement is undoubtedly truthful; but the facts are quite different, for there are now on record at least twice that number of recoveries. Dr. Gross seems to have been so deeply impressed with the fatality of this injury as to have left his former views of treatment, which were of no practical value, unimproved in the present edition. He does, indeed, approve the practice of Dr. Walker, the lateral operation as for stone, where the rupture occupies the "anterior and more accessible portions of the bladder," and for this very good reason, that the operator "thus not only secured a free outlet for the infiltrated urine, but prevented its further diffusion among the surrounding structures." If it is important to secure a free outlet when the rupture is in the external wall, is it not doubly so when the extravasation is into the peritoneal cavity? Most assuredly it is, unless we adopt the false premises of the author, that "in general, all the mischief that can be done is done in the first instance, by the escape of the urine into the peritoneal cavity." Cases are on record, in which the rupture into the peritoneal cavity has not been

attended, at first, with severe symptoms; but the patients have progressively grown worse. In others, the autopsy has revealed slight evidences of peritonitis, and in a few, none, where the escape of urine from the bladder into the peritoneal cavity has been free for a week or more. We can but believe, that the formation of a channel direct from the base of this organ, externally, which would drain away the urine as fast as it escaped from the ureters, is of the utmost importance. It is folly to trust to a catheter to remove the urine, for the bladder, always contracting firmly, is more likely to expel its contents through the posterior rupture than its natural outlet.

The following entire sections have been added to this edition:

Fistula of the Bladder, which embraces the following different forms of fistulæ and their treatment:—Vesico-Vaginal, Vesico-Uterine, Vesico-Utero-Vaginal, Vesico-Vagino-Rectal, Vesico-Rectal, Vesico-Urachal, and Urethro-Vaginal. The principal authorities quoted are M. Jabert and Dr. Sims, and the operation of the latter is fully described and illustrated.

Varix of the Bladder.—This disease is due to a varicose state of the veins of the neck of the bladder, and is usually associated with calculus, or organic disease of the urethra, or rectum and anus. It has no characteristic symptoms, but may be suspected when the patient, laboring under calculus, stricture, etc., has frequent attacks of venous hemorrhage. It is to be treated by removing the cause, leeching, cold douche, rest, etc. A fatal case of hemorrhage, from this cause, recently occurred in Paris.

Inversion of the Bladder, and Protrusion of the Organ at the Urethra.—This abnormal condition is, of course, confined to the female. There are two varieties—the complete and incomplete—the former consisting of a protrusion of all the coats; the latter, of the mucous coat only of the bladder. It is caused by a relaxation of the coats of the bladder, and is to be diagnosticated from growths in that vicinity, prolapse of the rectum, etc. The treatment consists in cautiously returning the protruded portion, rest, and remedies appropriate to the existing state of the patient.

Morbid Sensibility of the Urethra: Heterologous formations of the Urethra, and Inversion and Protrusion of the Mucous Membrane of the Urethra are short but instructive sections.

Besides these additions of whole sections on new and important subjects, nearly every page bears evidence of a careful revision; and to many chapters of the former work large additions are made in this. For example, the section on *calculus* is extended about seventy pages.

These improvements we cannot further point out, and shall conclude with a reference to the Appendix, which is devoted to an inquiry into the frequency of urinary calculi in this and other countries.

United States.—Dr. Gross has taken great pains to collect facts in reference to the frequency of calculus in this country, and presents us, in this Appendix, the valuable results of his inquiry. It appears that the great stone regions are, as far as is at present known, Kentucky, Tennessee, Virginia, Ohio, North Alabama, and, perhaps, Missouri. Dr. G. can assign no cause for this difference of territory in the production of urinary calculi. It evidently depends neither upon climate, geological formation, nor habits of life. There is no essential difference in these respects between Indiana and Kentucky, yet stone is far more frequent in the latter than in the former. The food of the inhabitants of calculous regions does not differ from that used in some States where the disease is more rare; the same is true of the use of lime-water; still, Dr. Gross considers it extremely probable that food, drink, occupation, and climate, do exercise an important influence in the productions of this malady. The author gives, at length, the statistics which he has collected relating to the frequency of stone in the individual States. These facts are of great interest, and the profession is under lasting obligations to Dr. G., for his labors in this field.

It appears that calculous diseases are almost unknown in our navy. This confirms the opinion, now generally prevalent, that sea-faring people are very rarely affected with stone.

Canada and Nova Scotia.—These territories enjoy the same immunity from calculous diseases as the New England States. The concluding portion of the appendix is devoted to the statistics of calculous disorders in foreign countries, and forms, with the preceding, a valuable addition to the work.

From this brief notice, the reader will form a correct opinion of the comparative value of the present edition of Dr. Gross' work. As a treatise on the injuries and diseases of the genito-urinary organs, it has no superior. Full and complete in the history of each individual accident and disease—clear and practical in the details of treatment—this work leaves nothing to be desired in the department of practical medicine to which it is devoted. Again, it is strictly an American work; and however much it shall add to the fair fame of its distinguished author, it will contribute, powerfully, to the elevation of the medical literature of this country.

ART. XV.—*A Manual of Pathological Anatomy.* By C. HANFIELD JONES, M.B., F.R.S., and EDWARD H. SIEVEKING, M.D., Fellows of the Royal College of Physicians, and Assistant Physicians to St. Mary's Hospital, London. First American Edition Revised, with three hundred and ninety-seven Illustrations. Philadelphia: Blanchard & Lea, 1854. 8vo. pp. 733.

WE have long had need of a hand-book of pathological anatomy which should thoroughly reflect the present state of that science. In the treatise before us, this desideratum is supplied. Within the limits of a moderate octavo, we have the outlines of this great department of medical science accurately defined, and the most recent investigations presented, in sufficient detail, for the student of pathology.

The first division of the work, on General Pathological Anatomy, is by Dr. Jones, and is occupied with the consideration of the morbid states of the blood, textural changes, new formations, parasites, etc. This division contains a very complete digest of our present knowledge of cancer.

The second division, on the Pathological Anatomy of the Nervous System, is by Dr. Sieveking. It embraces the pathology of the meninges of the brain, of its substance, of the spinal cord and its membranes, and of the sympathetic system.

The third division, on the Pathological Anatomy of the Organs of Circulation, is by the same author. In this, we have a careful survey of the pathology of the heart and its external and internal membranes, and the arterial, venous and lymphatic systems of vessels.

The fourth division, on the Pathology of the Organs of Respiration, is also by Dr. Sieveking, and forms one of the most important portions of the work.

The next division, the Pathological Anatomy of the Alimentary Canal, is by Dr. Jones. It embraces the mouth, œsophagus, peritoneum, stomach, intestinal canal, liver, pancreas, etc. The pathology of the urinary organs and joints completes the part which this author has contributed to the volume. The remainder, embracing the pathology of the female organs of generation and the osseous system, are by Dr. Sieveking.

We cannot, at this time, undertake a formal analysis of this treatise, as it would involve a separate and lengthy consideration of nearly every subject discussed. Nor would such analysis be advantageous to the medical reader. The work is of such a character, that every physician ought to obtain it, both for reference and study.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

SURGERY.

On Circular Cauterization of the Base of Hemorrhoidal Tumors complicated with Prolapse of the Mucous Membrane of the Rectum. By Dr. Alphonse Amussat, Jun.

[*Continued from Page* 121.]

The author then details a case of internal hemorrhoids, with prolapse of the mucous membrane of the rectum, treated with circular cauterization of the base of the most voluminous of the tumors, with a T-shaped porte-caustique forceps with projecting plates, and terminating in cure. The patient was a merchant, sixty-eight years of age, of temperate habits, but always subject to constipation. From the age of twenty-six he had suffered from hemorrhoids, accompanied by losses of blood, and it appeared that every two months he experienced a sort of very painful hemorrhoidal crisis, followed by a flow of blood which brought relief. During the last ten years the tumors had come down while walking or making efforts at defecation, and as the inconvenience and pain attending them continued to increase, Dr. Nacquart, on the 11th December, 1846, called in the author and his father. The operation was performed on the 14th, and lasted two minutes and a half; the following day there was headache and slight fever, which, however, soon passed away. On the 21st the shreds of the cauterized hemorrhoid had fallen off, the volume of the tumors becoming progressively less. On the 25th, notwithstanding the efforts the patient was encouraged to make, nothing was found in the situation of the cauterized hemorrhoid but a small, granulating, suppurating surface; the external tumors being, at the same time, very much flattened. On the 4th of January the patient informed his attendants that his efforts at defecation had ceased to be attended with any protrusion; he was able to sit and to walk for a long time without feeling pain, and the external swellings had almost disappeared. The author saw this patient again on the 8th of March, 1852; since the operation he had enjoyed a degree of health to which he had previously been a stranger, and the result of the cauterization had continued as just now described.

The second case described by the author, of which, as well as the remaining cases, we shall, as we have done in the preceding instance, give only an abstract, was likewise one of internal hemorrhoids, with prolapse of the mucous membrane of the rectum, and was cured by

circular cauterization of the base of the tumors, with a porte-caustique forceps. It occurred in an attendant in a workhouse, aged forty-six, of strong constitution and good general health, except that he had always been subject to constipation, and had for the last fourteen years suffered from piles, with frequent pains about the anus, and discharges of blood at stool. The hemorrhoids had latterly greatly increased in volume, and came down when the bowels acted, bringing with them a portion of the mucous membrane of the rectum; so that the patient was careful to go to stool in the evening, because the tumors returned more easily during the night, while in the daytime he had much difficulty, and often failed in returning them; at such time the friction of the shirt caused great pain, and frequently the patient could scarcely sit down. His general health becoming impaired, he applied to the author's father, who, on the 1st of March, 1848, made a circular cauterization of the left half, circumscribing the base of the tumor with a T-shaped porte-caustique forceps with protecting plates, charged with Filhos' caustic, and placed as high as possible. The cauterization lasted about three minutes; the patient suffered little, and the cauterized hemorrhoid separated on the fourth day.

On the 15th of March, 1848, the patient was examined by MM. Lallemand de Montpellier, Beauvieux, Remondet, and Chaussat, who ascertained that but half of the hemorrhoidal swelling remained. This was removed by a second application of the T-shaped forceps, charged with caustic, and allowed to remain on for three minutes. On the 4th of April the mucous membrane of the rectum had ceased to come down; the linear cicatrix of the cauterized hemorrhoids was situated about the fifth of an inch above the orifice of the anus.

This patient was seen again on the 5th March, 1849. The cure was complete; he no longer suffered at stool, there was no hemorrhage, and the constipation had ceased. No trace of the hemorrhoidal tumors or of the mucous membrane of the rectum was perceptible externally.

The foregoing case affords an illustration of the difficulty we sometimes experience in forming an accurate diagnosis of the affection. In fact, on the first examination I made of the anal region, I thought the patient suffered from a simple prolapse of the mucous membrane of the rectum, and were it not for the abundant losses of blood he had, joined to his other antecedents, I should have thought that this was his disease. But on a second investigation, made after the administration of a purgative, the vascular element became much more apparent; there was no longer any doubt that hemorrhoidal tumors existed with prolapse of the rectal mucous membrane. We see from this how useful it is to examine patients after the administration of a purgative, in order to be able to establish with precision the diagnosis of the affection. As to the surgical treatment, it ought, I think, to be the same in both cases, as I shall show at the close of this essay.

The third case was one of—

Internal Hemorrhoids with Prolapse of the neighboring rectal mucous membrane; Circular Cauterization of the base of the most voluminous; Cure.—The patient, aged fifty-four, of strong constitu-

tion, had enjoyed excellent health to the age of eighteen years, when he got syphilis, for which he underwent a full course of treatment. At the age of nineteen, being garrisoned on the frontiers of Spain, he was attacked with intermittent fever of a tertiary type, which lasted eighteen months; from that period he enjoyed good health until he attained the age of forty, when he quitted active military service to enter an office under the Minister of War. This change of life was not advantageous to him, for in 1843 he began to experience general *malaise*, headache, oppression of the chest; he lost his appetite, became dyspeptic; suffered from severe attacks of pain at the anus, in the abdomen, and sometimes in the genital organs; he occasionally felt great smarting in the urethra while passing water. His motions became difficult and painful, and to relieve his sufferings he had frequent recourse to baths and lavements.

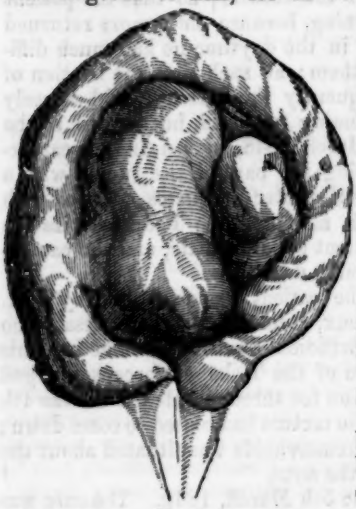

Fig. 6.

In 1848, the hemorrhoids, which had not hitherto appeared externally, began to come down; he lost blood at distant intervals, which gave him some relief.

In 1849, his digestion improved, but he lost blood every day, and was besides obliged to return the part every time he went to stool.

In 1850, the affection becoming worse, he could not go out, or walk without the inconvenience of feeling the hemorrhoids come down, and experiencing severe smarting; besides, the friction of the tumors against one another produced ulceration, and his linen was stained with muco-purulent matter. He was constantly obliged to return the hemorrhoids, which soon protruded again. In January, 1851, he came with Dr. Laurand to consult the author. A simple examination showed the existence of a large hemorrhoidal tumor, beside which was a smaller one; the epithelium was rubbed off for a certain extent at the point of contact of the tumors; there was, moreover, prolapse of the mucous membrane of the rectum, especially at the base of the more voluminous of the tumors. It was determined to cauterize the latter. The operation was performed on the 1st of February, and on the 10th the hemorrhoid, which was blackish and shriveled, separated. On the 13th, the patient was advised gradually to increase his diet; on the 14th he had a motion for the first time, and from this period he returned to his usual mode of life, resuming the duties of his office on the 16th. The cicatrization progressing slowly, he applied rhatany ointment to the anus twice a day, and was soon completely cured.

On the 13th of April, the author wishing to have a drawing made of the cicatrix left by the separated hemorrhoid, requested the patient

to make every effort to bring it into view; but it was filiform and linear, and so difficult to see well on account of the mucous membrane at that side not coming down, that he had to renounce the design. The smaller hemorrhoid, which before was seen externally, scarcely appeared. The bowels acted every day without pain, and the patient was free from all inconvenience.

The author saw this gentleman again about a month before the publication of this essay, and ascertained that the result of the cauterization continued such as has just now been described. The patient's general health was remarkably improved, but he occasionally experienced a feeling of tension towards the extremity of the rectum, which he attributed to his sedentary life; the author advised him to take as much exercise as possible, and carefully to avoid constipation, which would very probably occasion the development of the small tumors which still existed.

The fourth was one of *Very voluminous Hemorrhoids, with Prolapse of the mucous membrane of the Rectum; Circular Cauterization of their base with caustic potash and lime; Cure.*—The patient was a Wallachian prince, aged 52, who had been operated on with the ligature for internal hemorrhoids by the author's father in 1836, and returned in May, 1848, laboring under the same affection. Since the former operation, new hemorrhoids had become developed, and produced great inconvenience. Efforts at expulsion showed the existence of two large hemorrhoidal tumors occupying the entire of the anal orifice, with decided prolapse of the mucous membrane of the rectum. One of the tumors was at the right, the other at the left of the anus; numerous hemorrhoidal vessels existed.

On the 6th of May, 1848, an operation was performed by M. Amussat, Sen., which consisted in seizing the right-hand tumor with his T-shaped porte-caustique forceps, so as to include not only the base of the tumor, but also the prolapsed portion of the mucous membrane; the instrument having been firmly placed, and the tissues sufficiently compressed, the round pieces were uncovered by giving a rotary motion to the protecting plates, and the screw was again tightened, so as to compress the tumor strongly. The operation lasted three minutes. The eschar became detached, and the cicatrix formed so quickly that on the 23d it was difficult to see it, on account of the retraction which the tissues of the right side of the anus had undergone.

The pathological state of the anal region appearing remarkable, the author obtained permission to have a drawing made of the remaining tumor.

On the 26th, twenty days after the first operation, the circular cauterization of the pedicle of the left hemorrhoidal tumor was performed in the manner just described. The pain was slight, and the patient felt so well the next day that M. Amussat found him in his drawing-room seated on his sofa.

On the 29th, an examination of the anus having been made after a motion, neither hemorrhoidal tumor nor prolapse of the mucous membrane could be discovered. The Prince soon after left Paris for Wallachia, completely cured.

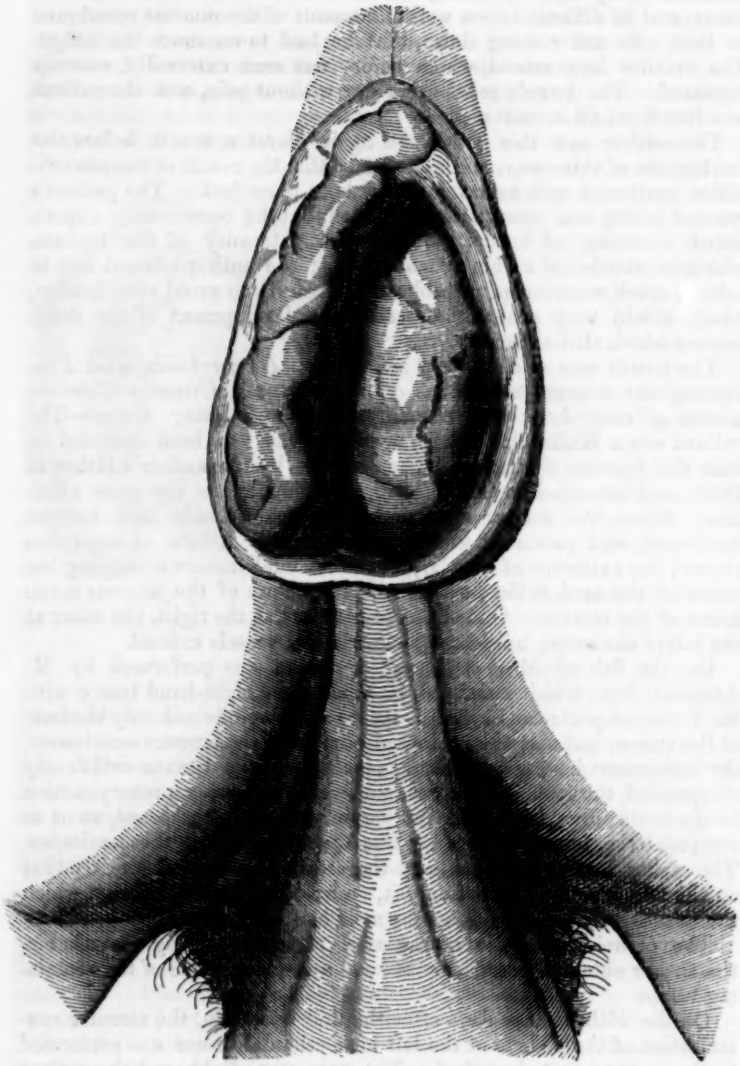

Fig. 7.

This plate represents the anus at the time of the second operation. The hemorrhoid of the right side, which has been cauterized, was as large as that which remains. There was a complete symmetry between the pathological production of the right and left sides. A sufficiently exact idea may consequently be formed of the original state of the affection, and the result of the first operation may be estimated with precision.

In the month of August last the author received a most satisfactory account of his patient; his general health was much improved, and he was in the habit of walking about three leagues a day. This exercise, of which he was completely deprived while he had the hemorrhoidal tumors, contributed much to the favorable state of his health, and the author was led to hope that new tumors would not become developed, although the affection under consideration is very common in the country the prince resides in.

The fifth case is headed *Voluminous internal Hemorrhoids, with Prolapse of the rectal mucous membrane; Circular Cauterization of the largest with my T-shaped porte-caustique forceps, with the grooves movable on their axes; Cure.*—Mr. S., aged forty-eight, came to consult me at the end of January, 1851, for an affection which, because her linen was constantly stained with purulent matter, she supposed to be a fistula. On carefully examining the affected parts, I ascertained the existence of two internal ulcerated voluminous hemorrhoidal tumors, with prolapse of the rectual mucous membrane, and some small varicose tumors at the edge of the anus; there was no fistula. The purulent discharge, which had deceived the patient as to the nature of her malady, came from the surfaces of contact of the hemorrhoids, which were superficially ulcerated. On questioning Madame S. as to the history of her case, I learned that, although of a delicate constitution, she enjoyed tolerably good health up to the time when the hemorrhoids had acquired some degree of development. She was the mother of four children, after the birth of each of whom she had hemorrhoids for a time, but then the affection rapidly disappeared, and did not return until the next confinement.

Each time that the hemorrhoids appeared under these circumstances they discharged much. In 1848, when she had been for several years free from them, they came on after much anxiety, and, in spite of the adoption of all ordinary means, they did not disappear; gradually they even increased in size. In 1849, they began to come down after each motion, and were always accompanied with discharge of blood.

In 1850 the affection advanced still further; the tumours became more painful and much more difficult to return. During the latter six months of that year the patient could not succeed in reducing them, with much pain and trouble, until two or three hours after each evacuation. Her digestion became more disturbed; she had frequent attacks of colic; her strength diminished so much that she was scarcely able to take any part in domestic matters; and she soon became unable to use anything but a little *café au lait* or very light soup. She then decided on consulting me, and on submitting to the operation I proposed to her.

On the 3rd February, 1851, in presence of Dr. Cruveilhier, Surgeon-Major of the 62nd regiment of infantry, I performed the circular cauterization of the more voluminous of the tumours, situated at the right of the anus, with a T-shaped forceps, made after the model of my father's, but with the grooved pieces movable on their axes, admitting of the caustic being covered and prevented acting until the

moment it was thought advisable. The operation was performed as I have already described; the cauterized part was well washed with cold water, and smeared with olive oil. The patient took a bath, in which she remained for an hour and a quarter; on coming out of it warm poultices were kept continuously applied to the anal region. The smarting felt after the operation gradually subsided. The cauterized hemorrhoid had, on the 10th, completely disappeared: on the 12th, with the aid of a lavement, the patient had a motion, and passed a little blood. An examination made on the 22nd showed that, in addition to the disappearance of the cauterized tumor, the mucous membrane no longer protruded, and that the second tumor came down in a much less degree.

From this period Madame S. ceased to lose blood, or to have any purulent discharge; her digestion improved; the attacks of colic did not return. She still occasionally felt pains about the anus, but which were nothing in comparison to those she had before suffered. The following is the report of the 6th April, 1853:—The hemorrhoid of the left side comes down less than before the operation, and is no longer ulcerated; the small varicose tumors at the circumference of the anus seem to have increased a little in size; the right side appears as if there had never been either tumor or prolapse of the mucous membrane.

[*To be continued.*]

New Operation for Cleft Palate.—At the session of the French Academy, on the 26th February, 1855, M. Jules Cloquet read a memoir on a new procedure in cases of "abnormal divisions of certain organs, and particularly in those of the *velum palati*." M. Cloquet proposes to render available the well-known contractile property of cicatricial tissues, as shown in the various deformities arising from burns and ulcers, by applying to the divided texture a series of cauterizations, commencing at one end of the division, and continuing them throughout its course as rapidly as the wounds, there made, heal and contract, thus gradually obliterating the deficiency. M. Cloquet recounts the difficulties and frequent failure of the old operation by suture, and furnishes the details of six cases of *fissured palate* successfully treated by the new method. The objection to the operation is the slowness of the process—but, on the other hand, there are claimed for it, certainty, simplicity, and readiness of application to the very youngest subjects, while the process of cure is accompanied with no restraint upon the patient, and does not interfere with her ordinary occupation. A cauterizing agent, the platinum-uin, heated reddish-white by an electric-current, is preferred to the hot iron, as being less likely to alarm the young patient, while it has the advantage of any chemical agent, in being more controllable as to the extent of its action. M. Cloquet proposes, in a second paper, to treat of the application of his method to the cure of ruptures of the peritoneum and of the recto-vaginal septum, and of certain varieties of fistula.—*Gazette Médicale.*

PRACTICAL MEDICINE.

Local Application of Copaiba in Cases of Blennorrhagia and Blennorrhœa.—Prof. MARCHAL, of Strasbourg, in a note to the *Jour. de Médecine et de Chirurgie*, gives the result of several years' experience in the employment of copaiba, applied topically. At first he injected the liquid copaiba into the urethra of males and females affected with blennorrhagia; his success was various, the remedy sometimes effecting a rapid cure, and again failing altogether. To obtain more constant results he determined to make a trial of the copaiba diluted with gum arabic, in the proportion of five parts of the former to eight of the latter, and to this add an hundred parts of distilled water. Injections, with this liquid, succeeded perfectly in a female suffering a urethral blennorrhagia, the discharge ceasing in a very few days; the results were equally satisfactory in the male. To avoid the irritation sometimes caused by the syringe, he at first used a catheter through which to make the injections, but subsequently introduced a catheter smeared with the emulsion, not penetrating to the bladder, and allowed it to remain, properly secured, thus giving the urethra a copaiba bath. The success of this treatment has been constant, without internal medication; the cure being effected in from five to eight days. In the majority of cases this treatment was not commenced until the acute inflammatory symptoms had yielded to the proper means. The success of this treatment led M. Marchal to employ the same remedy in vaginal and uterine blennorrhagia, and also to leucorrhœa, by means of injections thrown into the vagina and uterus; also with tampons smeared with the liquid placed in the former, and with the same invariably good results. Injections thrown into the uterus, in these cases, have not been followed by the accidents sometimes supervening upon this practice.

Prejudices against Vaccination during Epidemics of Small-pox. By M. DALBIN.—It seems to be a general opinion with the profession, that it is imprudent to practice vaccination upon persons living in localities where variola is raging. Physicians, who entertain this opinion, no doubt believe that, under these circumstances, the vaccine virus, instead of having a preservative character, possesses, on the contrary, a power of attraction, and that the disease, when attacking a person recently vaccinated, is almost always of the confluent variety. This opinion I have reason to regard as erroneous. Whatever be the condition of the person thus operated upon, he may be safely regarded as secure against contagion, from the moment there is observed, about the scarifications, a slightly-reddened elevation, indicating that the inoculation had succeeded. A long experience has firmly convinced me, that during epidemics of variola, inoculation by the vaccine virus is incontestibly the most certain of all prophylactic measures, not only in the case of children who have never been vaccinated, but also in persons who have been vaccinated six or eight years before. In the last epidemic, I repeated the operation in the cases of children, upon whom it had been practiced two, three, four, or five years previously,

and with perfect success. In the numerous epidemics of small-pox that I have had to treat, I have never hesitated to vaccinate persons living in infected neighborhoods, whenever it has been possible for me to procure the virus; and in the course of a twenty years' practice, out of two thousand persons vaccinated, I have never but twice observed the two diseases developed simultaneously. My first observation was made in 1838. Several cases of variola had occurred in the *communes* of Saline; I proceeded, at once, to vaccinate a large number of persons, all of whom were fully protected, excepting Mary B——, a robust child of two years, who was attacked four days after the operation, and in whose case *desiccation* took place on the twelfth day. My second case is quite recent, having occurred in the month of May last. In this, the two affections presented themselves almost simultaneously, though the vaccination alone preserved its distinctive character—of the variola, there were only about fifty pustules, and the disease was remarkably mild. It is, then, as will be observed, extremely rare to see the vaccine and variolous virus developed together, and the dangers so much dreaded are, in consequence, purely imaginary.—*Rev. de Therapeut.*

Abscess following Scarlatina. By Dr. Roche.—On the 1st September, 1836, while attending a female named Maccard, I was asked to examine her little boy, aged eight years, who was then in the twelfth day of a scarlatina, complicated with severe sore throat. The little patient, at that time convalescent, had an abscess on the right side of the neck, which had opened, spontaneously, the preceding evening; the pus was escaping, with difficulty, through several openings, almost capillary in size; the abscess was of considerable extent—the throat in good condition. I proposed to incise the skin freely, in order to facilitate the flow of the pus; but the little patient refused so obstinately, that I forbore to insist, not anticipating what was presently to happen. Six days later, I was sent for in great haste, being told that the child was losing all his blood through the wound. I had scarcely commenced my preparations to depart, when a second messenger arrived, who informed me that, a large quantity of black blood had escaped from the wound, and that the patient had died in a syncope two hours after the commencement of the hemorrhage.

At the period of the above observation, I was aware of nothing analogous; but the medical journals have since mentioned two or three similar cases, all of which, if I mistake not, have terminated in death. As is well known, scarlatina is often accompanied by a severe sore throat, of malignant character, specific in its nature, with deep ulcerations destroying the tissues; it is not surprising, therefore, that the abscesses which follow should have the same character.

When an abscess occurs under these circumstances, the suppuration should be facilitated by means of poultices; and as soon as the pus has formed, exit should be made for it, by means of a large opening, while the action of the parts is modified by the application of nitrate of silver, powdered bark, tincture of myrrh, aloes, etc. In case of

rupture of any considerable vessel, plugging with lint, dipped in some homostatic preparation, aided by moderate compression, appears to me the most rational means to be employed. In case the hemorrhage should persist, access should be had, of course, to the ligature; but as chloroform cannot be administered to a patient already exhausted, the application of a ligature will often be found difficult, in consequence of the cries and resistance of the child, which would render it difficult to find the vein in the midst of the disorganized tissues.—*Rev. de Therapeut.*

May Hydrophobia be produced by the Bite of an Infuriated Dog. By M. Baruffi.—A woman of 44 years, just convalescent from disease, wishing to drive away, from her children, a dog which had come to seek a shelter from the heat, in lying down at her door, gave the animal a kick. The dog, amazed, bit the remaining foot, and could only be driven by her threats and cries to loosen his hold. The wounds in the foot healed in thirty days, but were never free from a certain amount of uneasy sensation.

On the 20th Oct., 1849, about fifty days after the occurrence, a severe pain was felt, extending from the wounded foot in a straight line to the trochanter. In the mean time the cicatrices became swollen, and surrounded by a reddish brown areola, and the muscles of the thigh contracted spasmodically; during the night convulsive movements and groans.

On the morning of the 21st, violent suffocation, thirst, and uncontrollable aversion to liquids. When brought to the hospital she presented the same symptoms aggravated. Pulse tremulous, convulsions, violent effort of cough and spitting, to relieve the embarrassed throat.

Oct. 22d, same symptoms increased. 23d, features elongated, strength exhausted, delirium, muscles benumbed—all voluntary movements arrested, except the violent spitting, pulse feeble, respiration very short and noisy, with mucous râle—death.

It was, of course, desirable to ascertain whether the animal inflicting the injury was at the time diseased. It is very certain that he was not, if we may trust the statement of the unfortunate patient, who saw the dog quietly asleep a short time before being attacked, or that of the relative who often encountered him and saw him perfectly well so late as the 20th October.

M. Baruffi has no doubt that his patient died of Hydrophobia, communicated by the poison of *rabies canine.* He then seeks to explain the sudden and spontaneous formation of this agent by the influence of anger upon the nervous centres; and analogy comes to the support of his opinion. Examples are not rare, in medicine, of humoral metamorphoses under the influence of powerful nervous perturbation; sudden attacks of jaundice caused by fright; vomiting in some attacks of hysteria; fetid perspiration in some cases of convulsion and in epilepsy. In fine, the writer cites the experiments of M. Bernard, by which this physiologist has shown that, by irritating a certain limited area of the spinal marrow, the secretion of sugar in the loin is increased in a few

moments. We might add to these examples that of certain nurses, where milk, suddenly altered in quality by an emotion of anger, or of fright, has produced convulsion, and soon death, in the infant.—*Gaz. Med.*

Slow Poisoning by Copper.—Dr. Corrigan reports (*Dub. Hospt. Gaz.*) several cases of poisoning by copper, which are remarkable for the extreme slowness of progress resulting from the gradual introduction of the poison. In many instances it was the result of handling old or dirty copper, on which the carbonate had been formed. It was the carbonate from which the poisoning proceeded, and in this there is an analogy with the salts of lead. He notices a peculiar feature in these cases, viz.: an edging of rich purple on the margin of the gums, of the incisor, canine, and bicuspid teeth of both jaws. This purple color corresponds, in situation, precisely with the coloring produced by lead, but the tint of color is so different as to decide at once whether it has proceeded from copper or from lead, for, while the color produced by lead is of a pure blue, that from copper is a well-marked purple, and even, sometimes, a reddish purple.

Treatment of Vaginitis.—M. THIRY prescribes, in the mild form of vaginitis, first, a bath and saline purgative; then, removing the vaginal mucus, he sprinkles over the inflamed surface finely powdered charcoal or Peruvian bark, and completes the dressing by isolating them by means of a tampon. The tampon is allowed to remain from three to five hours, and on its removal emollient injections are employed; usually, in about six days, the cure is complete. In acute vaginitis he employs the same treatment, but precedes the application of the absorbing powder with a rapid cauterization of the inflamed surfaces with the nitrate of silver. A single cauterization usually suffices, and the cure is complete in eight days. He also employs the cautery and absorbing powder in follicular vaginal inflammation, which is ordinarily observed at the neck of the uterus, and is characterized by red conical eminences, and abundant secretion.

Twins born at an Interval of Forty Days.—A case is related in *Ann. Méd.* in which a female, æt. 24, healthy, of regular menstruation, and primipara, gave birth, after a short and regular labor, to a fully developed but feeble infant, which died eight days after. The placenta was delivered by natural efforts. The abdomen did not, however, completely subside; active movements were still experienced by the mother, and neither lochial or lacteal secretion was observed. No other particular symptom was manifested until the fortieth day after the birth of the infant, when she gave birth to another, feeble as the first, but evidently having arrived at full maturity. The lochial flow and secretion of milk now appeared.

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

Remarks on the Treatment of Badly-United Fractures of the Thigh.—The following remarks are the conclusion of a paper on Badly-United Fractures, by Dr. GURDON BUCK, published in the *Transactions of the N. Y. Academy of Medicine:*—Accident must have early suggested to surgeons the mode of treating this class of deformities. Patients, in their first attempts to resume the use of a fractured thigh or leg, frequently re-fracture the newly united bone by accidental falls, and this is generally followed by a speedy re-consolidation of the fracture; sometimes this has proved an advantage, by enabling the surgeon to correct a defect in the original cure. This was illustrated in a recent case at the hospital. A young man, seventeen years of age, was treated during the summer of 1854 for a compound fracture of the left thigh near the middle. The wound complicating, the fracture became the seat of hospital gangrene, and prevented the application of any extension to the limb. The result was a shortening of one and a half inches at the date of his discharge on the 3d October. On the 25th of the same month, and nearly sixteen weeks after the first fracture, he was admitted again with a re-fracture, caused by an accidental fall. There being now no external wound to interfere with the treatment, constant extension was applied, and speedy re-consolidation effected, with only half an inch shortening.

When the interval since the fracture is not too long, and the ends of the fragments are still movable, extension alone may serve to elongate the limb sufficiently. If, however, after a few days' trial, no material advantage has been gained by stretching the callus, there should be no longer delay in rupturing it. The method of operating employed in the above cases has proved safe, and it is believed it may be resorted to with very little risk of injury to the soft parts. By keeping the limb powerfully on the stretch while flexion is made, the ends of the fragments cannot be protruded far towards the surface in any direction. The inflammation and swelling following the operation, if any, are so slight as not to interfere with the immediate application of the apparatus for maintaining extension.

An important practical question in relation to this subject is, what interval of time may elapse within which it is admissible to resort to this mode of treatment? Guided solely by the consideration of the time required by the callus to become consolidated, we should be restricted in the application of our treatment to much narrower limits

than clinical experience would impose. There is considerable discrepancy among authorities on this point, their views being influenced by the mode of treatment which they advocate. Some advise extension alone, with the view of stretching the callus, and discard altogether the operation of rupturing. Dupuytren, who advocated extension without rupture, fixed the sixtieth day as the ordinary limit, though he admitted that, in exceptional cases, it might be considerably exceeded. Æsterlen (cited by Laugier, *Thése sur les cals difformes*, etc., etc., Paris, 1841), an advocate of re-fracture, places the limits at six months to a year for adults, and at a longer period for children. Prof. Velpeau (*Médecine Opératoire*, 2d edition, T. 1, pp. 604, 605) divides deformities consequent on fracture into two classes: 1st. Where there is shortening alone of the limb, with overlapping of the fragments. 2d. Where there is angular deformity. In the first case, he thinks that re-fracture should not be attempted beyond the third month, for fear of fracturing the bone elsewhere; or, in case of separating the fragments, their cicatrized extremities should fail to reünite after being brought to confront each other by extension.

Our Case No. V. is an example of successful re-fracture beyond the limits prescribed by Velpeau, and the subsequent rapid re-consolidation of the fragments shows that the fears of non-union are not always confirmed in practice.

There is still less ground for fear of non-union, if we consider that, after refracture of a callus of so long standing, it is seldom practicable, and never necessary, to employ extension to such a degree as to confront the ends of the fragments. If the amount of shortening be reduced to one inch, or even one inch and a half, there still remains sufficient overlapping of the newly ruptured surfaces to effect a union, and also to secure to the patient a useful limb, with little or no halting in his gait.

In his second class of callus with angular deformity, Prof. Velpeau advises re-fracture of the callus at any period of its existence, however remote, and relates the case of an adult patient with an oblique fracture of the femur, that had united with a shortening of five inches, who, by an accidental fall, re-fractured the callus ten months afterwards, and recovered in two months, with only one inch shortening.

Catheterization of the Air-Passages. In our last issue we published an abstract of the report of the majority of the special committee of the Academy of Medicine, "On Catheterism of the Air Passages." Since that date the minority report, signed by B. Fordyce Barker, has been laid before the Academy, and the following abstract embraces its chief points of interest.

"The conclusion of Dr. Green's paper contains the following three distinct propositions:

1*st. That direct medication of the lungs, by means of catheterism of the air tubes, has not before been accomplished.*

2*d. That the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.*

3d. That the results of this method of treating disease, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

This condensed summary of the paper referred to the committee seems necessary, in order clearly to define the duties of the committee.

The Committee were appointed "to inquire into and investigate the treatment proposed by Dr. Green in his paper," read before the Academy, Dec. 6th, 1854. That treatment is the injection of nitrate of silver into the bronchi, and "under favorable circumstances," into tubercular cavities. I now proceed to what I consider to be the legitimate duty of the committee.

1st. To ascertain whether direct medication of the lungs, by means of catheterism of the air tubes, has been before accomplished. On this point little need be said, as I presume the Academy and the committee will unanimously concur in the statement, that, in the history of medicine, there is no evidence that this has ever before been accomplished.

2d. To ascertain whether "the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient." The operation consists of two parts—1st, the introduction of an elastic tube through the vocal chords in the trachea. 2d, the injection, by means of a small syringe, of a solution of nitrate of silver, through the tube into the bronchi. The latter part of the operation can, of course, be accomplished with ease and facility. The first part, then, only requires examination, and this is not new to medical science. One of the "conclusions" of the report of the majority of the committee is, that "catheterism of the air-passages dates its history from the time of Hippocrates." * * * * But I am ignorant of the data upon which the committee base such a conclusion. Hippocrates (*de Morbis, lib. III.* 10) gives the following advice: "Fistulæ in fauces ad maxillas intrudendæ, quo spiritus in pulmonem trahatur." "Canulas should be carried into the throat along the jaws, so that the air can be drawn into the lungs." But M. Sestier (*Traité de l'Angine Laryngée Œdemateuse,*") has shown that it is very doubtful whether the ancients really did pass the sound into the trachea. He remarks that *αυλίσκος,* diminutive of *αυλος,* sound, means a small sound, and that under the denomination of *φαρυγξ,* the ancients meant sometimes the *throat*, sometimes the *pharynx*, and sometimes even the *larynx.* Hippocrates then advises the introduction of small sounds, but whether into the *throat*, *pharynx* or *larynx*, it is impossible for us to decide. At all events, the practice was altogether abandoned when Asclepiades proposed bronchotomy. It was almost lost sight of when Desault, in 1801, revived it, since which time it has been really introduced and left for a longer or shorter time *in the larynx and trachea*, and we have recorded in the annals of science many cases where the tube has been passed into the trachea as a remedial measure in the cases of impending suffocation. Prof. Lallemand resorted to this method in two cases, one of which is reported by Dr. Sestier, and the other by Dr. Justin Benoit. The latter also operated in this way in one case of

his own. Desault reports three cases, Giraud two, Bichat one. Another case is reported by Desault as occurring in the Hospital of Lyons, in which a soldier, who had attempted to kill himself, was *nourished* and *breathed* fifteen days by means of two sounds, one introduced into the *œsophagus* and the other into the *larynx*. A sufficient number of cases have been enumerated, to establish the fact that this part of the operation can be performed by the dexterous surgeon with ease and facility. Mr. Ryland, who is alluded to in the report of the majority of the committee, thus speaks of the introduction of a tube into the trachea. "The idea of the aperture of the glottis being closed by the abasement of the epiglottis upon it, has long since been exploded, and it is now well known that a tube, passed in the manner just indicated, will, if directed by a scientific hand, readily find its way into the trachea."

With such ease and facility does the tube pass into the trachea, that it often occurs as an accident, where the intention of the operator has been to pass it into the œsophagus, and this, too, with a tube much larger than those Dr. Green makes use of. Dr. Watson, at the last meeting of the Academy, mentioned one case of his own, where this happened in one fourth of the operations, if I correctly understood him.

The experience of Dr. Watson is confirmed by many other surgeons. There are cases recorded where the tube has been introduced into the trachea, and produced so little disturbance that the operators have believed it to be in the œsophagus, and injected liquids into the air-passages, thus producing most unfortunate accidents, and even fatal results. It is sufficient for me to refer to a Thesis by M. Prus, Paris, 1817, No. III. p. 26., to the articles by M. M. Thoré and Baillarger, in the *Annales Medico-psychologiques*, T. V. et VIII. So well is this known to surgeons, that Prof. Miller, of Edinburgh, in his standard work on the "Practice of Surgery," gives especial directions to prevent the occurrence of such a mistake. The following are his words:—"In most cases, it is well to assure ourselves fully that the tube is in the œsophagus and not in the larynx, before fluids are passed downwards into the stomach. For this purpose a sheet of paper may be placed before the face, with the extremity of the tube projecting through it, while in front of the tube a lighted taper is put, which by the paper is effectually secured from the flatus of the nostrils in expiration. If, on expiration, the flame remains steady, no air impinging on it, we may proceed with the injections, the tube is certainly in the right place. If the flame be extinguished or even made to bend considerably, it is equally plain that an error has been made, and that injection would almost certainly occasion fatal asphyxia." The facts above mentioned conclusively *prove that the absence of the "rational signs" as given by the committee*, is *no evidence that the tube is not in the trachea, and that when the committee have decided on these grounds that an experiment was unsuccessful, their decision is wholly unreliable.* * * * *

3d. The *therapeutic results* of this method of medication. No one fact is better settled in the science of therapeutics, than the effect of

nitrate of silver on inflamed mucous membranes. The pathological condition of the mucous membrane of the air-tubes, in chronic bronchitis and in the bronchi leading to tubercular deposition, is equally well established. Most physicians accustomed to treat pulmonary diseases, must have had, in the course of their practice, some such ideas as are happily expressed in the following quotation from Dr. Chambers, a distinguished physician of London:—"While treating disease in those parts of the mucous membranes which are sufficiently exposed to sight and touch, for the immediate application of remedial agents, there are few to whom the wish has not occurred that equal facilities were afforded of directly influencing the deeper seated continuations of the same fibre. The powerful remedies which restore so rapidly to health the conjunctiva and the fauces, would probably act with equal quickness and success on the stomach or the bronchi, could we apply them rightly to the right spot, and attack the local disease, without passing circuitously through the whole system."* *A priori*, then, we should look for most favorable results from this method of medication as meeting a "general indication, which the judicious practitioner will know how to avail himself of."†

The writer of this report has abundant proof that the results of experience fully confirm the expectations founded upon analogy and inductive reasoning. He has availed himself of every opportunity to watch the effects of the treatment now under discussion. He has examined a large number of patients, has learned their characteristic symptoms, and has watched their progress from day to day. A report of this character cannot be burdened with a minute record of individual cases. General results only can be stated. The use of the injections has uniformly been followed by a marked decrease in the cough and expectoration. A large proportion of the cases were those of chronic bronchitis. There were some of early and some of advanced phthisis. In all the cases of bronchitis, the patients began to improve as soon as the injections were used. Many of them recovered with a rapidity which I have never seen under any other treatment. In early tuberculosis, especially when complicated with bronchial disease, (as it usually is), this method of topical medication has produced the most gratifying results, diminishing the cough and expectoration, relieving dyspnœa, and allaying pain in the chest when present. In several prominent cases, the details of which, at some future time, will be given to the profession, the disease appears to be arrested. Time, of course, must determine this point. In some advanced and hopeless cases of phthisis, the injections have, for a time, greatly diminished the cough, expectoration, and irritation about the chest, and some of these patients and their friends have repeatedly declared that they invariably rested better after an injection.

In conclusion, the minority of the committee would suggest, for the acceptance of the Academy, the following propositions:

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* Lond. Lancet, (Am Ed.,) 1849. Vol. 10. p. 29.
† The Path. and Treat. of Tuberculosis. By John Hughes Bennett, M.D., etc., p. 140.

1st. Direct medication of the lungs, by means of catheterism of the air-tubes, was first proposed and carried into effect by our associate member, Dr. Horace Green.

2d. The operation may be performed, by the dexterous surgeon, with ease and facility, and with perfect safety to the patient.

3d. The results of this method of treatment, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

[The papers of Dr. Green, the reports of the committees, and the detail of the experiments performed, were ordered to be printed as part of the transactions of the Academy. At the meeting in July, the subject came up for discussion, but nothing new or important was elicited, and the whole matter, by a unanimous vote, was laid on the the table.—EDS.]

MISCELLANEA.

Medical Schools.—Session of 1855–6.—Before our next issue, most of our medical schools will have commenced their annual sessions, and we take this occasion to notice the changes which have been made in those whose announcements appear in our columns:

College of Physicians and Surgeons, Corner of Twenty-third-street and Fourth Avenue.—Within a few months, this school has met with a severe loss, in the death of Professor ELISHA BARTLETT. The changes in the faculty, which we noticed last year, as incident to the inability of Professor BARTLETT, from ill health, to deliver his course, are, this year, to be permanently settled. Prof. SMITH will give the course on Materia Medica; Prof. CLARK that on Pathology and Practice; and Prof. DALTON that on Physiology.

The removal of this college from its former, almost inaccessible, location, to its present highly eligible building and central situation, must have a very decided influence upon the prosperity of the school. It will be located in the pleasantest portion of the city, easily accessible, and within a few minutes' walk of Bellevue Hospital.

University Medical College, No. 107 *Fourteenth-street.*—This is the second medical college, in age, in this city, but the first in the number of its students and annual graduates. It has a very central location, from which the different hospitals are easily reached. Its museum is rich in anatomical and pathological illustrations, and its faculty embraces some of the most eminent names in the medical profession. No changes have occurred in this school during the year.

New York Medical College, East Thirteenth-street, between Third and Fourth Avenues —Some important changes have taken place in the faculty of this school, within the last year. Prof. HORACE GREEN has resigned the chair of Theory and Practice, and received the honorary appointment of Emeritus Professor of the same branch. HENRY G. COX, M.D., has been elected to the Professorship vacated by Prof. GREEN. Prof. PEASLEE and Prof. PARKER have exchanged Chairs—

the former having now that of Physiology and Pathology, and the latter General, Descriptive, and Microscopic Anatomy.

This is the youngest medical school in the city, but it bids fair to become a formidable rival of its sister institutions. Its faculty, as at present arranged, constitutes an able and efficient corps of teachers, and who, by their connection with hospitals, can afford to pupils every needful advantage for clinical studies. It has, also, an admirably selected museum of wax preparations, which illustrate every branch of healthy and morbid anatomy.

Medical Institution of Yale College.—The faculty of this school remain unchanged since our last notice.

Castleton Medical College.—No changes have occurred in this school during the last year.

Nashville Medical College.—This vigorous school, located in one of the most liberal and enterprising Southern cities, is rapidly advancing to the front rank of similar institutions. Its claims to the attention of Southern students are well founded. Its faculty remains unchanged.

Buffalo Medical College.—The only change in this college, since our last notice, is the resignation of Prof. Moore, and the appointment of Sanford B. Hunt, M.D., to the Chair of Anatomy thus vacated.

Geneva Medical College.—We noticed this College last year as a revival of the old school of that name. The session of last year, we learn, gave gratifying evidence of success, the class being respectable in size and character. The changes in the faculty since the last session will materially tend to strengthen the school. They are as follows:—Prof. Hyde takes the chair of Surgery; George Burr, M.D., is appointed Professor of Obstetrics, Diseases of Women and Children, and Medical Jurisprudence; Caleb Green, M.D., Professor of Materia Medica and General Pathology; and James H. Jerome, M.D., Professor of Anatomy and Physiology.

Philadelphia College of Medicine.—This is among the younger medical schools of Philadelphia, but it is not the less worthy of the attention of the student who repairs to that city for instruction. Its faculty embraces the names of men long known as successful medical teachers, and which cannot fail to give character to the school. It has two sessions in the year, which gives it additional advantages as a school for students.

For further particulars in regard to these schools, we refer to our advertising sheet.

Annual Reports of the Hospitals, Dispensaries, and Public Charities of New York City.—There is probably no city in the world which is laid under greater contribution, for the support of purely

benevolent institutions, than New York. We refer, in proof, to the immense number of foreigners which the following statistics show annually throng our public institutions. It is right and proper that we should support liberally our native pauper population, which would indeed be a light tax comparatively, but it is asking too much that we should be required to erect and endow asylums at an annual expense of hundreds of thousands of dollars for the protection and support of foreign paupers.

New York Hospital Report for 1854.—The establishments in charge of the Governors of this Institution are, the Hospital on Broadway and the Bloomingdale Asylum for the Insane. The Hospital was chartered as early as 1771, and is one of the most important, both from age and the perfection of its arrangements, in this country. The following are the statistics of these Institutions for the last year:

	Number treated.	Died.	Ratio of Mortality.
New York Hospital, - - - -	3,680	373	10½*
Bloomingdale Asylum, - - -	248	26	

Annual Report of the Commissioners of Emigration for the year 1854.—This Board was created in consequence of the immense foreign emigration to this port. Previously to 1847, the date of its organization, the foreign pauper was a tax upon the city. So great had the burden become to the tax-payers, that the Legislature of 1847 imposed a tax of $1.50 for every emigrant arriving at this port in a vessel from a foreign country, and placed the fund thus acquired in the hands of this Commission to indemnify the several cities of the State upon which the emigrant became a tax. The amount thus received last year was $633,210. The Institutions under the charge of this Commission are the State Emigrant Hospital, on Ward's Island, and the Marine Hospital, on Staten Island. These institutions are, therefore, self-supporting. The following is their exhibit for the year 1854:—

	Number Treated.	Died.	Ratio of Mort.
Emigrant Hospital, .	15,861	1438	9 1-15
Refuge Department, .	13,806	269	1 9-10
Marine Hospital, .	4,762	909	19 1-10†

Sixth Annual Report of the Governors of the Alms-House of New York, for the year 1854.—From this report we gather the following facts in reference to the condition of the institutions in charge of the Governors of the Alms-House for the year 1854.

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* There were 156 cases of death from casualty, which, being deducted, makes the per centage 6 3-20.

† The high rate of mortality in this Hospital is due to the fact that it receives contagious, infectious, and other diseases of a fatal character. Thus it appears that there were of cholera 650 cases, and 314 deaths; yellow fever 45 cases, and 20 deaths; Chagres fever 271 cases, and 26 deaths; typhus fever 1087 cases, and 99 deaths; variola 843 cases, and 80 deaths; moribund, 118 cases. Excluding this class of diseases and the mortality is about 10·53 per cent.

	Whole No. Under treat.	Admitted. Native.	Foreigners.	Died.	Ratio of Mortality.
Bellevue Hospital,	7,033	925	5288	725*	10 1-2
Penitentiary "	4,058	880	2864	144†	3 1-3
Small Pox "	210	112	73	40	14 7-10
Alms-House "	4,724	...	....	288†	4 7-10
Work-House "	1,681	...	....	67†	4 1-3
Colored Home	917	...	....	138	....
" Orphan Asylum	150	...	....	21	....
Lunatic "	1,028	97	389	190‡	18
Nursery Hospital	2,199	891	494	208	9

New York Eye Infirmary, No. 97 Mercer-street.—Thirty-fourth Annual Report.—This institution was organized in 1820, and has been one of the most efficient charities in the city. We are glad to learn from this report, that the Infirmary is soon to realize the advantages of a better location and a new building, through the liberality of the Legislature and private subscriptions. The following is a summary of its last year's operations:—Total number of patients, 3,000; natives, 1,049; foreign, 1,951; diseases of eye, 2,635; ear, 365.

New York Ophthalmic Hospital—Second Annual Report.—This Institution was incorporated in April, 1852, and opened in the following month. It is located at No. 6 Stuyvesant street, a point easy of access to students attending the different colleges.

The surgeons of this Hospital have formed a class of students and graduates, in medicine, for the purpose of clinical instruction, and we are glad to learn that this "Ophthalmic School" has been eminently successful. The number in attendance last year was sixty-five, each of whom received, at the conclusion of the course, an engraved certificate, signed by the officers of the Institution. During the past year, 1854, 1234 patients have been under treatment, classified as follows: Lids and Lachrymal organs, 310; Conjunctiva, 502; Cornea, 206; Coats and Muscles of Eye, 20; Pupils, Lens, Optic Nerve, 116. The medical officers of this Hospital are Drs. Mark Stephenson and J. P. Garrish.

Dispensaries of New York.—While examining the annual reports of the several dispensaries of this city, for the purpose of exhibiting their operations, we found, in the report of the Eastern Dispensary, the following brief history of these institutions, with their annual statistics, so admirably arranged that we shall copy them. It is but justice to add, that the present report of the Eastern Dispensary is a document of great value, abounding with useful statistics of general and local interest, and reflecting creditably upon the liberality of the trustees. It contains also a complete exhibition of the operations of the excellent system of vaccination recently adopted in that institution, the credit of originating and perfecting which is due to Jonas P. Loines, M.D., the vaccine physician, an able and enlightened statician:—

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* One-third from phthisis; cholera, 55.
† Cholera, 298 cases; deaths, 110; ratio of mortality, 39 4-5.
‡ Cholera, 83; deducting this number and the ratio of deaths is 10 per cent.

"The Dispensaries of the city of New York, though performing public functions, are private in their origin, and, as to the sources of their means, subsisting, in fact, wholly upon donations, and such small income as their economy in past years enables them to derive from funds invested. The present number of institutions, bearing this name, is five, viz.:—The New York, the Northern, the Eastern, the Demilt, and the North-western. In former times, even after New York had become a great city, a single Dispensary, "The New York," performed all the public gratuitous medical service which its existing limits required—that is, all that kind of medical service which is now received at the hands of the Dispensaries. It was established in 1790, its care embracing the whole city, and its field of operation even then not as extensive as the bounds of its present district. Thirty-seven years after its foundation, in the year 1827, it, for the first time, began to share its duty with a similar institution, the Northern Dispensary, the outward boundaries of whose district were Spring-street, Broadway, Fourth Avenue, Fortieth-street, and Hudson River, but since somewhat reduced.* This, it will be perceived, includes the populous settlement of Greenwich village and parts adjacent, that well-known quarter in which our great city first showed its expansive proclivities. Four years after the establishment of the Northern Dispensary, in the year 1832, the Eastern was founded, appropriating within its district all of the city lying east of Pike and Allen-streets, and First Avenue to Fourteenth-streets. Nineteen years after, in the year 1851, the Demilt followed, occupying as the field of its care all of the city lying above Fourteenth-street to Fortieth-street, with the Sixth Avenue for a western boundary line; all lying west thereof, also from Fourteenth to Fortieth-streets, being subsequently placed under the supervision of the North-western Dispensary which was founded in 1852. Fourteenth-street is, therefore, the base line of two Dispensary Districts, and the northern limit of three.

The New York Dispensary, as we have seen, was the parent Institution; it included among its earlier Physicians and Surgeons many whose names have become eminent in the annals of the city. The lists of Consulting Physicians and Surgeons of the several Dispensaries still chiefly embrace these names, and it would not do justice to the interest which they constantly display to assert that their positions are merely honorary.

The City Dispensaries are all formed upon the same general plan, and, as the most cordial and fraternal relations subsist between them, they work in harmony, and for measures of individual good, in concert. To render more palpable what good they annually do, so far as it may be expressed in figures, the following statistics, compiled from authentic sources, are subjoined; they are for the twelve months ending January 1st, 1855.† It will be seen that they carry their own comment with them.

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*Spring-street, Broadway, Fourteenth-street and the River, are the present boundaries.

† Unfortunately the Annual Returns of the several Dispensaries are not made up to one uniform date, or this table could be officially prepared every year.

Statistics of the Five Dispensaries of New York, for twelve months.

Name of Dispensary and Date of its Incorporation.			PATIENTS WHERE TREAT'D		Grand Total.	NATIVITY OF PATIENTS.		No. Vaccinated.	Deaths for the Year.	Prescript's dispensed.	Aver'ge cost of service to each pati'nt*
			At the Disp'ry	At their Dwel'gs		United States.	For'ign Cou'trs				
New York,	A.D.	1790	38,069	7,983	46,052	11,076	34,976	3,538	294	112,570	10½ cts
Northern	"	1827	8,421	4,449	12,870	4,522	8,048	1,447	80	26,952	25½ "
Eastern	"	1832	18,194	2,737	20,931	8,516	12,415	2,952	123	26,995	13½ "
Demilt	"	1851	11,457	2,710	14,167	4,732	9,435	1,405	181	24,482	27 "
N-western	"	1852	6,555	2,709	9,264	3,647	5,617	936	131	16,350	27 "

Patients treated at the Dispensary, 82,396.
Patients treated at their dwellings, 20,588.
Whole number of Patients treated, 102,984.
" " " of American birth, 32,493.
" " " of Foreign origin, 70,491.
" " of persons Vaccinated for twelve months, 10,278.
" " of patients who died, 809.
Whole number of prescriptions dispensed, 207,349.
General average cost of medicine and medical services to each patient, 16½ cents."

There is one reflection which this interesting table suggests, and it is this:—Our dispensaries are all supported by public and private donations, a very precarious source of livelihood, as their annual reports show, and tending greatly to cripple their usefulness. Their aggregate expenses, during the last year, amounted to upwards of $30,000, a large sum to raise annually from the benevolent. Now, may not our dispensaries be made self-supporting in a considerable degree, without impairing their usefulness? Every patient who visits a dispensary for treatment, is able to pay a small sum of money, say five cents a visit; if, on an average, (and we believe this is the case,) each patient visits a dispensary four times, it would make an average of twenty cents for each patient treated at the dispensary. If each patient visited at home paid ten cents per visit, and we allow five visits, on an average, to each, the average for each patient, would be fifty cents. The aggregate thus received, by all the dispensaries, would be about $26,000, per annum, which would nearly cover their annual expenses in the gross, while to individual dispensaries, it would afford a small annual surplus. We do not profess to be strictly correct in our estimate, but design it for illustration. When we reflect that, of the 102,984 patients treated by these institutions, 70,491 are foreigners, is it asking too much that they be made to contribute towards the support of these great public charities, which afford them so much gratuitous aid? Besides, the patient who pays, however little, for his medical treatment, places a higher value upon it, and is more benefited than the gratuitously treated. We throw out these hints, suggested by examining these

* These estimates are based upon the latest financial statements to which we have had access. The Demilt and the North-western, which are comparatively recent institutions, have incurred at the outset necessarily heavy expenditures for many things that will not require immediate renewal, and future years will, no doubt, show relatively diminished *per capita* expenses.

reports, and would recommend them to the serious consideration of the Medical Officers of these institutions.

Emigrants' Hospital—Ward's Island.—The internal arrangement of this Hospital has recently undergone very important modifications. The old system, of Warden, Visiting Physicians, and Surgeons, and House-staff, has been abolished, and a resident physician with several assistants substituted. The following gentlemen were appointed by the Commissioners of Emigration to these several places: Physician-in-chief, Dr. JOHN B. FAY; Surgeon-in-chief, Dr. JOHN M. CARNOCHAN; Assistant Physicians, Drs. FORD and SIMROCK; Assistant Surgeons, Drs. DARLING and NELKIN.

Appointments.—We are pleased to learn that GEORGE C. BLACKMAN, M.D., of this city, has been appointed to the vacant Professorship of Surgery in the Ohio Medical College. Dr. Blackman justly ranks as one of the most learned in this department of practice. Driven by ill health to spend several years in foreign travel, he has not hitherto had an opportunity to acquire that reputation as a practitioner which we are sure awaits him. Dr. B. has been an able and acceptable contributor both to the original and review department of this Journal, and we wish him all success in the ample field upon which he enters with rugged health, and superior qualifications.

Surgical Appliances.—We refer readers to our advertising sheet for a variety of surgical instruments.

OBITUARY.

DEATH OF Dr. J. C. BLISS.—Died at his residence, in this city, on the 12th of August, James C. Bliss, M.D., in the 65th year of his age.

Dr. Bliss was born in Bennington, Vt., on the 3d of January, 1791. He commenced the study of medicine with Dr. Taylor, of Lansingburgh, and afterward continued it with Dr. Ely Burritt, of Troy. In 1812 he entered the office of Samuel Borrowe, M.D., of this city, who was at the time one of the surgeons to the New York Hospital. Afterward he became resident house-surgeon to the Hospital, and in the Spring of 1815 graduated at the College of Physicians and Surgeons, having presented an inaugural dissertation "*On Permanent Stricture of the Urethra.*" The practical turn of his mind, which this essay evinces, characterized his professional career during the forty years in which he practiced his profession; and it was this, coupled with great integrity of character, which raised him to an exalted eminence in the profession. Our readers will also remember the practical character of the papers which he contributed to the pages of the Journal. During his public career, he held important offices of trust in the gift of numerous medical, scientific, humane, and charitable societies and institutions of our city, in all of which he has won the affectionate regard of all who had the good fortune to know him. We need hardly add, that one of the important landmarks of our profession has been removed.

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